Paired Opposites

University of Helsinki
Faculty of Arts

Paired Opposites

The Development of Einojuhani Rautavaara's Harmonic Practices

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Abstract

Paired Opposites: The Development of Einojuhani Rautavaara's Harmonic Practices studies the music of the Finnish composer Einojuhani Rautavaara (1928–2016). The focus of this work is on Rautavaara's preferences in writing harmonic motions. The main aim of the work is to investigate those aspects of Rautavaara's harmonic practices that remained invariant, or at least relatively invariant, throughout his career. Rautavaara used various composing techniques in his long career and embraced many different aesthetic attitudes, but this study shows a common vein running through his music in most of its stylistic phases. Among the works studied are compositions from six decades of Rautavaara's career, from the late 1940s to mid-1990s, by which time he can be considered to have reached a synthesis of all his previous stylistic phases.

Most of Rautavaara's music is based on tertian harmonies. Accordingly, it may be tempting to analyze his œuvre with tools designed for tonal music. However, Rautavaara very rarely employed tonal functions. Therefore, tonal cadences are replaced by various other means of regulating harmonic tension and release. The present study investigates Rautavaara's harmonic practices with a tool called the Harmonic Circle, a <3, 4> compound interval cycle that can be used to trace tertian harmonies but does not imply functional tonality—even though, as the study shows, tonal music can also be analyzed with the Harmonic Circle. Analytic tools from the neo-Riemannian analytic tradition are also used to investigate harmonic motion in Rautavaara's music. The Harmonic Circle provides insights into serial music, at least of the kind written by Rautavaara, where the hexachords of twelve-tone rows often create distinct harmonic areas. This study shows that it is the contrast of such harmonic areas that Rautavaara often manipulates in his music, serial or otherwise, to control harmonic tension and release.

The notion of harmonic areas in Rautavaara's music is associated with the principles of symmetry. Symmetries are explored in the study from both aesthetic and technical perspectives. For Rautavaara, symmetry was a way of regulating tone materials, and he associated symmetries with mandalas—circular diagrams that are used as meditational aids in Buddhism and Hinduism. On a purely technical level, he drew parallels between mandalas and serialism, as he saw twelve-tone composing as a way of controlling post-tonal harmony, much like concentrating on a mandala focuses a meditating person's thoughts. Significantly, Rautavaara was prone to using symmetrical twelve-tone rows. After his first serial period (1957–1965), he sought to employ similar symmetrical structures and tone materials in his non-serial, neo-

romantic music as well, in a stylistic phase which lasted for nearly 20 years, from 1967 to 1985. In his last period (1985–2016), he succeeded in fusing together serial writing with neoromantic timbres. His fondness of symmetries can also be seen to extend to his whole production; his habit of alluding to and quoting from his own previous compositions amounts to œuvre-wide symmetry, as motifs and themes from various earlier stages of his career keep reappearing in later compositions.

Preface

"My beginning is my end," mused the composer Einojuhani Rautavaara (1928–2016) when he made the choice of quoting his early work *Pelimannit* (1952) in his opera *Aleksis Kivi* (1997; Rautavaara & Rautavaara 2001, 142). He was paraphrasing T. S. Eliot, whose poem *East Coker* begins with the phrase "In my beginning is my end" and concludes with "In my end is my beginning." Rautavaara's statement reflects not only his lifelong fondness for poetry, which often fueled his compositions, but also his penchant for reusing motives, themes, and occasionally even whole compositions in writing new works. It seems that he remained aware of his compositional history and did not feel the need to let go of those themes that were dearest to him, and therefore some of them keep resurfacing in his œuvre throughout his career. Rautavaara must also have been pleased with the symmetry in the opening and closing phrases of T. S. Eliot's poem.

Similarly, this doctoral dissertation has come full circle, from the beginning to the end, and again back to the beginning, since it was first begun in 2001. After working on my dissertation at the University of Helsinki and City University of New York in 2001–2005, I came upon a sizable cache of Rautavaara's manuscripts and sketches, previously unknown. Cataloguing and analyzing these documents supplanted the work on this dissertation for several years and provided the impetus for writing a biography of Einojuhani Rautavaara. My work on *Tulisaarna: Einojuhani Rautavaaran elämä ja teokset* (Tiikkaja 2014) took nearly 9 years, from late 2005 through early 2014, after which I was able to return to work on this dissertation. That meant that I was obliged to revisit the concepts that I had worked on nearly a decade earlier, and to decide whether they still were relevant to my more mature view of musicology, music theory and analysis, and of 20th-century music. Some were, while others were not.

Needless to say, this book would look quite different had its writing not been interrupted by working on Rautavaara's biography for the popular market. The present volume is remarkably more comprehensive than it would have been if it had been completed 10 or 15 years earlier; writing Rautavaara's biography, I had to acquaint myself not only with all of Rautavaara's published compositions, but also with a wealth of unpublished works and Rautavaara's writings and other materials relevant to his life and works.

Unfortunately, I was not able to complete my thesis before Einojuhani Rautavaara died in 2016. His attitude towards musicologists and music critics was generally ambiguous and sometimes dismissive, but he was always cordial and friendly to me—a

musicologist and music critic—in the nearly 20 years that I knew him. I believe that a mutual trust and respect was established during the years that I worked on my two books on him, i.e., his biography and this thesis. He entrusted me with access to his archives and biographical data in various forms, understanding that I would not edit out even the unsavory, scandalous aspects of his life, and further trusted that I would treat all of this information fairly in my work. This I have endeavored to do.

Rautavaara's generous help was complemented by the invaluable assistance of his wife Sini Rautavaara, to whom I offer my humblest thanks. It was Sini who called me in early 2005 to inform me that a large amount of Rautavaara's manuscripts and sketches had been found in the effects of Rautavaara's first wife Mariaheidi Rautavaara, who had died in September 2004. This phone call began a process that effectively suspended my work on this thesis and—as I have later come to realize—at the same time salvaged it.

Einojuhani and Sini Rautavaara did not know what to do with all these materials from Einojuhani's past. He was not even particularly interested in revisiting that period of his life, as it was so painful for him to remember. This is why they gave me custody of the manuscripts, which was the starting point for my work on *Tulisaarna*. They have been invaluable for this thesis as well. I have since forwarded the manuscripts to the Finnish National Library, where they are gradually being catalogued.

Various foundations have supported my research in its early stages. I would like to warmly thank the University of Helsinki Research Foundation, the Niilo Helander Foundation, the Fulbright Center, and the Finnish Cultural Foundation.

My professors at the University of Helsinki have assisted me through the various stages of researching and writing this thesis. Eero Tarasti, Alfonso Padilla, and Kai Lassfolk have tirelessly lent their expertise from their respective fields.

I would like to thank the preliminary examiners of this thesis, professors Lauri Suurpää and Joseph N. Straus. Their comments and suggestions have greatly improved the quality and scope of my text.

A grant from the Fulbright Center enabled me to study at the Graduate Center, City University of New York in 2002–2003. Studies and discussions there with professors Joseph N. Straus, L. Poundie Burstein, David Gagné, and William Rothstein, among others, shaped this thesis significantly.

At the University of Helsinki and in general, my friends Juha Torvinen, Susanna Välimäki, Petri Tuovinen, and Liisamaija Hautsalo have provided insights, assistance, encouragement, and friendship, all of which have been absolutely essential for my admittedly drawn-out project. I have observed their assurance with their own proj-

ects with no small degree of admiration. Throughout the years, I have witnessed their progress from students to doctors, professors, and researchers with great pleasure.

As curator of music manuscripts at the Finnish National Library, Petri Tuovinen has also been immensely helpful whenever I have needed assistance with the Rautavaara manuscripts that are deposited there. At the Helsinki University Library, Jaakko Tuohiniemi has helped me with various information requests throughout the years. Ari Nieminen, Jari Eskola, and Henna Salmela at Fennica Gehrman and Reijo Kiilunen at Ondine Records have always treated my numerous inquiries with generosity and kindness.

My own path has led me to a career in journalism at the newspaper Helsingin Sanomat, where I have worked in varying capacities during the later years of this research project. Fellow music journalists Vesa Sirén and Hannu-Ilari Lampila have been encouraging and supportive of my attempts to reconcile my professional career with my academic one. Thanks also go out to all my other brilliant colleagues at the Culture section of the Helsingin Sanomat for their emotional support, camaraderie, and remarkably witty lunch-time conversations. My former bosses, Heikki Hellman (then editor of the Culture section of the Helsingin Sanomat) and Risto Nieminen (then the general manager of the Helsinki Festival) offered their support in the early years of my research project, for which I am grateful.

My interest in classical music was sparked during my childhood in the north of Finland, mainly through the eclectic record collection and music making of my parents Esa Tiikkaja and Soile Kauppi. Equally intriguing to me was my big brother Sakari Tiikkaja's ever-growing record collection, which embraced various genres of popular music. They have all shaped me into what I am today. A big thank you to all of them and their families, not to mention their record collections.

At home, a certain Labrador retriever has taken upon herself to regularly tear me away from my computer to go take a hike in the nearby forests. Usually with her. Amalia is now nine years old and can claim to have met Einojuhani Rautavaara in her puppy years. My wife Katri Maasalo has had to put up with my staring at my computer screen more than anyone else. At the same time, incredibly, she has supported me more than anyone else. I am a lucky man.

Lohja, September 2019
S.T.

Copyright information of musical examples

Sonata for Solo Cello (example 2.32a); *Canto III* (2.34a); *Piano Concerto No. 3 "Gift of Dreams"* (2.34b); *On the Last Frontier* (2.34c); *Three Sonnets of Shakespeare* (3.3a, 3.4a); *Fünf Sonette an Orpheus* (3.5a, 3.6a, 3.7a, 3.8a, 3.9, 3.10, 3.11a, 3.12a, 3.14a, 3.15a, 3.16); *Ave Maria* (4.4, 4.5); *Prævariata* (4.7c); *Die Liebenden* (4.14, 4.17a, 4.18, 4.20, 4.21, 4.23a, 4.25, 4.26a); *The Mine* (4.27, 4.28, 4.29); *Symphony No. 3* (4.31); *Sonata for Bassoon and Piano* (5.1b–c); *Independence Cantata 1967* (6.1a–b); *Anadyomene* (6.3, 6.4, 6.6); *Piano Sonata No. 1 "Christus und die Fischer"* (6.28a–b); *Piano Sonata No. 2 "The Fire Sermon"* (2.32b, 6.29a, 6.30a, 6.31a, 6.33a, 6.34a, 6.35a, 6.36, 6.37); *Nirvana Dharma* (7.8a); *Magnificat* (7.9a–b, 7.10, 7.12, 7.13a, 7.14a); *Symphony No. 5* (2.32c, 8.2, 8.4, 8.5a, 8.7, 8.8a, 8.10a); *Symphony No. 7 "Angel of Light"* (8.15, 8.16, 8.17a, 8.19a, 8.20, 8.21a): **© Fennica Gehrman Oy, Helsinki. Used by permission.**

String Quartet No. 2 (4.8, 4.10, 4.11, 4.12); *Cello Concerto No. 1* (6.7, 6.8, 6.10, 6.11, 6.12, 6.14, 6.17a); *Piano Concerto No. 1* (6.18, 6.21a, 6.22a, 6.23a, 6.24, 6.25, 6.27a): **© by Breitkopf & Härtel, Wiesbaden.**

Psalm 23, mixed choir (6.2a): **© Suomen kanttori-urkuriliitto, Helsinki.**

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True & False Unicorn (7.2a, 7.3, 7.4a): Music by Einojuhani Rautavaara, lyrics by James Broughton. **Copyright © 1982 G. Schirmer Inc., New York. Used by permission of Edition Wilhelm Hansen AS, Copenhagen.**

Canticum Mariae virginis (7.5, 7.6a, 7.7): **Copyright ©1990 SULASOL, Helsinki. Printed with permission.**

Unpublished manuscripts (The Finnish National Library): *La première neige* (3.1); *Ensi lumen aikaan* (3.2a–b); *Elegia* (4.1); *Prævariata* (4.7a–c); *String Quartet No. 2* (4.9a–b); *Erstesspiel* (5.1a); *"Nuages"* (5.2a–b), *"Duineser Elegien"* (5.3) **© The Estate of Einojuhani Rautavaara. Used with permission.**

Contents

1
Introduction

Einojuhani Rautavaara (1928–2016) was one of the major figures in Finnish music and was one of the most successful late-20th century composers internationally. By the end of his career, he achieved an elusive combination of artistic freedom and commercial success that few contemporary composers ever attain.

He began composing as a teenager in the late 1940s, modeling his music after Debussy, Hindemith, Prokofiev, and Britten. He studied composition extensively throughout the 1950s in Finland, Central Europe, and the United States under the tutelage of Aarre Merikanto, Vincent Persichetti, Roger Sessions, Aaron Copland, Wladimir Vogel, and Rudolf Petzold. From the Neoclassical influences of his early compositions he progressed to twelve-tone composition at the end of the 1950s and integral serialism in the 1960s. At the end of the 1960s he converted to a neoromantic style. By the 1970s he was recognized as a major composer in Finland and his music was championed internationally by several soloists and conductors. His real international fame began in the mid-1990s with the success of his Symphony No. 7 (*Angel of Light*), a work with metaphysical subject matter and softly consonant textures. After this composition Rautavaara was never short of commissions for the remainder of his career and life. In the Symphony No. 7, Rautavaara combined serial techniques with triadic writing, as he had indeed often done before. This combination was particularly apparent in his first serial period, from 1957 to the first few years of the 1960s.

In previous research, Rautavaara's music has often been analyzed by focusing on a relatively narrow segment of his output, typically a single composition at a time (e.g., Vidjeskog 1991; Tiikkaja 2000; von Creutlein 2006), or compositions that are connected via genre (Aho 1988; Lovejoy 2000; Virtanen 2007) or choice of texts (Nikula 2005). Rautavaara's swift changes in modes of expression, sometimes between consecutive compositions,[1] have given rise to the widely accepted interpretation that Rautavaara was prone to making abrupt stylistic leaps (see e.g., Aho 1996, 78, 125; Korhonen 2004, 137–138; von Creutlein 2006, 79). This interpretation has its roots in Rautavaara's own statements, originally printed in Juhani Aromäki's book *Elämäni on musiikki* ("Music is my Life," Aromäki 1980) where Aromäki interviewed several

1. E.g., between the extensive choral suites *Vigilia* and *True & False Unicorn*, composed by Rautavaara back-to-back in 1971; see Tiikkaja 2014, 319–329.

prominent musicians and composers of the day. For analysts, the way to tackle these perceived stylistic leaps has been to focus on a particular segment of Rautavaara's production and to use analytic methods appropriate to that segment. The methods that an analyst uses in studying, say, serial compositions are rarely applicable to music that is composed in a Neoclassical or neoromantic idiom. For example, Rautavaara's first five symphonies are works that were all composed with different techniques and aesthetic attitudes. In Kalevi Aho's analyses of Rautavaara's first five symphonies (Aho 1988), Aho adjusts his toolkit accordingly for each work.

A different approach has been taken in studies that emphasize musicological inquiry over the strictly theoretical/analytical. For example, Wojciech Stępień's (2010; 2011) emphasis is on the "angelic" features of the compositions in which Rautavaara alludes to angels in their titles. Such an approach veers the investigation towards semiotics, even though it is by necessity grounded on musical analysis and theory. Anne Sivuoja-Gunaratnam (1997), likewise, uses a semiotic apparatus to investigate the narratological aspects of Rautavaara's serial writing.

1.1 The Aim of the Study

In contrast to the two approaches described above, the present study takes a slightly different route and seeks to find common elements in Rautavaara's entire output while remaining focused on musical analysis and theory. This requires identifying such features of Rautavaara's music that remain same through changes in modes of expression.

The subject of this study is Einojuhani Rautavaara's practice of harmony. The basic questions are the following: What are Rautavaara's core preferences in harmony? How did they evolve throughout his career? What are the origins of his harmonic writing?

The aim of the study is to show that such core preferences do indeed exist and that they remained largely unchanged—or that they at least evolved relatively slowly—throughout his various stylistic periods over a career that lasted from the late 1940s to mid-2010s. This means approximately 65 years of composing, namely from a teenager learning the craft as an autodidact to the Grand Old Man of Finnish music who remained active until his death at the age of 87 in the summer of 2016.

1.2 On Analytical Methods

With the exception of those compositions where Rautavaara employed integral serial procedures, his harmonic writing is largely based on triads, and therefore has its roots in tonal harmony. However, Rautavaara did not employ tonal functions in his mu-

sic, except in very rare exceptions. He took the triad as a basic unit of harmony, and in lieu of tonal functions he had to employ alternate means of regulating harmonic tension and release. Investigating these means is one of the main objectives of this study. Much of Rautavaara's harmonic lineage can be traced to his teacher Vincent Persichetti's *Twentieth-Century Harmony* (Persichetti 1961), a seminal textbook of post-tonal harmony; Rautavaara recalled Persichetti testing out his theories on his students at Juilliard when Rautavaara himself was one of those students in 1955–56 (Rautavaara 1989, 133). Persichetti investigates many of the harmonic features that Rautavaara would come to use; in fact Rautavaara used such features on his own even before his studies with Persichetti. These include modal scale materials and chords constructed of various intervals, such as seconds, thirds, and fourths. Other staples of Rautavaara's harmony discussed by Persichetti include added-note chords, polychords, and mirror harmonies. Many of the same topics are discussed by Walter Piston and Mark DeVoto in Piston's Harmony (1978 [1941], 480–531) and by several other theorists as well, such as Joel Lester (1989), Joseph N. Straus (2000 [1990]), and Stefan Kostka (2012 [1999]).

Mirror harmonies and other symmetries were a major point of interest for Rautavaara. His fascination with symmetries extended beyond musical phenomena; Chapter 2 begins with a discussion of Mandalas and their importance to Rautavaara via their prevalence in the psychoanalytical theories of C. G. Jung. Mandalas became a symbol of symmetry and unity for Rautavaara. Symmetrical structures can be found in Rautavaara's music on many levels, such as in formal and harmonic design and in inversional relationships. The nature of symmetries is investigated in Chapter 2 primarily using the classic treatise *Symmetry* by Hermann Weyl (1952).

Symmetries appear in Rautavaara's music in virtually all stylistic periods. Symmetrical structures and other features of Rautavaara's serial music are discussed in relation to the twelve-tone music of the three original serialists of the second Viennese school and to the analytical literature devoted to them. These include the theoretical and analytical work of Milton Babbitt (2003a [1950], 2003b [1955], 2003c [1974], and 2003d [1976]), Douglas Jarman (1979), Kathryn Bailey (1991), Dave Headlam (1996), and Jack Boss (2014).

The main analytical tool of the study, the Harmonic Circle, has points of contact with neo-Riemannian theory as advanced by theorists such as David Lewin (2007 [1987]), Richard Cohn (1996), Jack Douthett and Peter Steinbach (1998), Edward Gollin (1998), and Brandon Derfler (2010). Further connections can be seen in Fred Lerdahl's investigations of *Tonal Pitch Space* (2001). The same can be said of the long analytic tradition of set theory, presented in 1973 in Allen Forte's book *The Struc-*

ture of Atonal Music. Although the present study makes only passing references to set-theoretical issues, the harmonic units discussed throughout this study could also be discussed with a set-theoretical framework.

Harmony, of course, is not a musical phenomenon separate from other parameters that involve pitch, at least in a tonal context. In Schenkerian analysis, which views tonal harmony and voice leading as largely inseparable, linear motions such as melodies and bass lines (horizontal phenomena) are held together by an underlying structure of harmony (a vertical phenomenon). In atonal music, the cohesion between melodic and harmonic elements begins to rupture. It is thus a matter of interpretation at what point exactly the connection between harmony and melody can be considered as severed.

One of the fundamental issues that hold linear and harmonic writing together is the possibility of distinguishing between consonances and dissonances, as argued by Joseph N. Straus (1987, 2). In the absence of a globally agreed consonance/dissonance condition in atonal music, one can only hope to distinguish between the two locally. This means that one must attempt to find a referential harmony within each composition, or even a section within a composition. This referential harmony would then be labeled as a functional consonance, and all other harmonies would be gauged in relation to it as either consonances or dissonances (see Väisälä 2004, 1, 11).

The view taken in the present study falls somewhere between global and local approaches. The basic argument is that it is possible to discover referential harmonies (or "consonances") that remain relatively invariant *within Einojuhani Rautavaara's œuvre*. This is possible because Einojuhani Rautavaara created a vast network of compositions that often refer to each other even over decades (see Chapter 2.5). Even when Rautavaara does not quote directly from his other compositions, there are unmistakable harmonic (and other) connections between his works.

The present study also explores the origins of Rautavaara's harmonic writing. Even though he eschews functional tonality, his harmonies are predominantly tertian, based on triads. This means that traditional cadences of tonal music do not regulate harmonic tension and release (i.e., dissonance and consonance). Instead, alternate means of interplay between harmonies and motions between them are identified in the analyses.

The fundamentally tertian nature of Rautavaara's harmonies makes them essentially global and common. Therefore, the analysis method introduced here in specific connection to Rautavaara's brand of triadic non-tonal harmony can likely be applied to the music of other composers as well, provided they function with sufficiently similar parameters of harmony.

1.3 Compositions Studied

There are 326 entries in the list of Einojuhani Rautavaara's works (Aho & Tiikkaja 2017 [1997]).[2] Many of them are discussed in this study and approximately 30 are given closer analytical inspection. I have chosen these particular works because they illustrate, in my view, Rautavaara's core harmonic preferences. The analytical observations proposed in connection to the compositions discussed in this study can also be extended to other works of Rautavaara, provided that one considers the particular characteristics of each composition. This has been my aim as well; ideally, the Harmonic Circle (see Chapter 2.2) and other analytical methods only serve as tools in the quest of discovering the distinguishing characteristics of each composition.

Some of the approximately 30 compositions discussed in this study are short, lasting as little as just under 2 minutes (such as Rautavaara's song *Elegia*, discussed in Chapter 4.1). In contrast, others are extensive operas and orchestral compositions (such as Rautavaara's opera *Kaivos* and Symphony No. 7, discussed in Chapters 4.7 and 8.2, respectively). The duration of the composition under discussion is not necessarily reflected in the length of the discussion; indeed, compositions such as the Symphony No. 3 or *Kaivos* are examined relatively succinctly in Chapter 4. I only point out such features of each composition that seem pertinent in the context of this study and its research objectives. Many of the compositions, particularly those discussed in Chapter 4, have already been analyzed in greater detail in pre-existing literature (e.g., Kilpeläinen 1982; Aho 1988; Sivuoja-Gunaratnam 1997). My analyses of these same pieces scrutinize them in the context of the Harmonic Circle and comment on previous analyses when I disagree with some aspects or when I consider it necessary otherwise.

1.4 Previous Studies of Rautavaara

Several academic studies of Rautavaara's work have been published over the years. The standard work for academic Rautavaara studies is Anne Sivuoja-Gunaratnam's doctoral dissertation *Narrating with Twelve Tones* (1997), focusing on Rautavaara's first serial period. This book has remained an important reference throughout work on my own dissertation, and it most clearly forms an important source for my chapter dealing with the same works, even if my interpretations differ somewhat from

2. The list, originally compiled by Kalevi Aho in 1997 and updated by me in 2017, has separate entries even for the compositions that are demonstrably reworked versions of previously existing compositions. Even in such cases a composition is listed as an independent entry if it can reasonably be identified as being completed and could be in principle performed.

Sivuoja-Gunaratnam's. The reason for such differences is largely due to the discovery of materials not available to Sivuoja-Gunaratnam in the 1990s. Other doctoral dissertations of Rautavaara's music include those by Kaisu Nikula (2005), whose topic is Rautavaara's settings of the poetry of Rainer Maria Rilke, Tarja von Creutlein (2006), who focused on Rautavaara's *Vigilia* in the context of Orthodox church singing, Marjaana Virtanen (2007), who focused on the rehearsal processes for performances of Rautavaara's Piano Concerti, and Wojciech Stępień (2010; see also Stępień 2011), who investigated Rautavaara's Angel compositions.

Rautavaara's music has been discussed in other academic literature as well. In the 1980s, Mikko Heiniö discussed Rautavaara's music in several texts, including his doctoral thesis (1984), where Rautavaara's music is considered as a part of a larger corpus of all contemporary Finnish composers. Heiniö's later studies (1986a, 1986b, 1988, 1995) continue to position Rautavaara in the context of Finnish music in general. Heiniö's articles in the Finnish encyclopedia *Suomalaisia säveltäjiä* ("Finnish Composers," Heiniö 1994) and the German music encyclopedia *Komponisten der Gegenwart* (Heiniö & Tiikkaja 2017 [1997]) deal with Rautavaara directly; the latter article was updated by me in 2017. In *Komponisten der Gegenwart* I also updated the list of works originally written by Kalevi Aho (Aho & Tiikkaja 2017 [1997]). By virtue of its comprehensiveness and completeness, that list is to be regarded as the standard list of Einojuhani Rautavaara's compositions. Among Aho's other contributions to the literature on Rautavaara is his book *Einojuhani Rautavaara as Symphonist*, released in 1988 as a companion work to the study scores of Rautavaara's five first symphonies; Aho's book contains analyses of all of these symphonies. Tim Howell's *After Sibelius* (2006) contains chapters on eight Finnish composers, one of them being Einojuhani Rautavaara. Howell discusses several compositions by Rautavaara, including three of his symphonies (Nos. 3, 4, and 5), all of which are analyzed in the present study as well.

In addition to his musical prowess, Rautavaara was also an erudite writer, to the extent that his writings, too, have become objects of academic scrutiny. Milla Tiainen's *Säveltäjän sijainnit* ("Locating the Composer," 2005) investigates the texts of Rautavaara and Paavo Heininen. Rautavaara's own writings (e.g., Rautavaara 1989, 1998b; Rautavaara E. & S. 2001; Rautavaara & Franck 2006) provide many insights into his life and music and his thoughts on musical life in general. They are considered here whenever necessary and appropriate. Pekka Hako's biography (2000) provides additional information on Rautavaara's life. My own biography of Rautavaara (2014) is intertwined with the present study; this work provides the biographical context for the analyses presented in this study and is often quoted in connection to the analyses.

1.5 The Course of the Study

My dissertation follows Rautavaara's different style periods in a chronological fashion. The aim of this chronological treatment is to show the evolution of Rautavaara's style and harmonic writing. Analyses of Rautavaara's compositions are found in Chapters 3–8; before these analyses Chapter 2 provides theoretical context for the analyses and investigates the features of Rautavaara's music that remained relatively invariant throughout his career, even as their application might have evolved as he progressed as a composer. Such features include a career-long interest in symmetry, which he applied in his music in several favored ways. Rautavaara sought ways to incorporate symmetrical structures into the various techniques that he was using at different points of his career. Other topics discussed in Chapter 2 include Rautavaara's preferences in serial writing and his penchant for quoting his earlier music in his new compositions.

To investigate Rautavaara's harmonic practices, a tool called the Harmonic Circle is introduced in a central section of Chapter 2. The Harmonic Circle has common features with neo-Riemannian theory, which I discuss in Chapter 2.

Subsequent chapters discuss Rautavaara's different style periods, starting in Chapter 3 with his earliest compositions from the 1940s and 1950s. Some key compositions of Rautavaara's early output are discussed, particularly his two song cycles, *Three Sonnets of Shakespeare* (1951) and *Fünf Sonette an Orpheus* (1954–55).

Chapter 4 discusses Rautavaara's twelve-tone writing and shows the common harmonic features that his serial writing shares with his previous, non-serial works. The works discussed are from the end of the 1950s and the beginning of the 1960s, namely *Elegia*, *Modificata*, *Ave Maria*, *Prævariata*, String Quartet No. 2, *Die Liebenden*, *Kaivos*, and Symphony No. 3.

Chapter 5 discusses predominantly biographical issues, as the time period discussed was one of artistic crisis for Rautavaara. The purpose of the chapter is to show the influence of Rautavaara's private life on his artistic output. The works discussed in this chapter include *Arabescata*, the original versions of Symphony 4, and several unfinished compositions. This is an essential chapter for understanding Rautavaara's subsequent music and particularly the stylistic choices that he made during the 1960s.

The results of those stylistic choices are the subject matter of the remaining chapters. In Chapter 6, important neoromantic compositions from the end of the 1960s are discussed. They include the *Independence Cantata*, *Two Psalms*, *Anadyomene*, Cello Concerto No. 1, Piano Concerto No. 1, and Piano Sonata No. 2 (*The Fire Sermon*).

Chapter 7 discusses the 1970s, when Rautavaara sought to incorporate various means of expression into his music in such compositions as *True & False Unicorn*,

Canticum Mariae virginis, *Nirvana Dharma*, and *Magnificat*. Chapter 8 shows how he finally succeeded in the quest of blending together various modes of expression in the mid-1980s. By discussing two of Rautavaara's symphonies, Nos. 5 and 7, I show how Rautavaara finally learned to fuse serial writing, neoromantic harmonies, aleatoricism, synthetic modes, and symmetry in his synthetic period. By the mid-1990s, with Symphony No. 7, he finally found his mature style. This style remained as his mode of expression for the remaining 20 years of his life and career.

2
The Elements of Rautavaara's Style: Symmetries, Tertian Harmonies, and Serialism

Before delving into the music of Einojuhani Rautavaara in Chapter 3, some tools for analyzing his music are introduced in the present chapter. To begin with, Rautavaara's lifelong aesthetic and technical fascination with symmetry manifested on multiple levels in his music. These include harmony, voice leading, twelve-tone rows, and even structural design. Symmetry is discussed in subchapter 2.1. As symmetry is a rather general and far-reaching topic, symmetry is also featured rather prominently in subsequent subchapters that delve more deeply into specific technical features in Rautavaara's music. To analyze Rautavaara's harmonic preferences, a tool called the Harmonic Circle is introduced in subchapter 2.2, where its general features and connections to neo-Riemannian theory are discussed. Symmetries also extend to serial techniques, which Rautavaara used extensively from the late 1950s to the end of his life in 2016. Therefore, Rautavaara's twelve-tone practices are discussed in subchapter 2.3. Rautavaara's use of synthetic modes is briefly discussed in relation to the Harmonic Circle in subchapter 2.4. Finally, one of the most remarkable features of Rautavaara's style is his penchant for auto-quotation, which tends to create connections between his pieces, regardless of the chronological distance. Auto-quotations are discussed in subchapter 2.5.

2.1 Symmetry

Einojuhani Rautavaara was interested in symmetry throughout his career. Early pieces such as *Three Symmetrical Preludes* (1950) and, to some extent, *Pelimannit* (Fiddlers, 1950) already exhibit symmetries. However, symmetry was not as central to his music in his early pieces as it was after he began studying serialism in 1957. Symmetry then became one of the most striking features of his composing technique, and symmetrical passages appeared later in non-serial pieces as well.

2.1.1 The Mandala as a Symbol for Symmetry

> Carl Gustaf Jung studied the mandala: a circular pattern, drawn or painted, that symbolises the circle of life. […] In music it means symmetry. And it means that I became utterly fascinated by dodecaphonies [sic], the twelve-tone technique, which is a kind of circle where all things are connected with each other. I have been trying to combine the serial structure with harmony, which has been always extremely important for myself [sic]. In fact, serialism—twelve-tone series and techniques to use them—is a kind of mandala […]. It's an antidote against chaos, says Jung, and this is what it has been for music; an antidote against chaos, which was coming in, in the beginning of the [twentieth] century. It still is. (Einojuhani Rautavaara, interviewed in Cronvall 2005 [1998].)

Mandalas are circular diagrams used in Buddhism and Hinduism as aids in meditation. They act as points of focus in contemplation, and their purpose is to assert order and meaning in the mind of the person meditating (Jung 1972c [1955], 3; von Franz 1997 [1964], 213; Brauen 1997, 11). According to Brauen (ibid.), "As a rule a mandala (dkyil 'khor) is a strongly symmetrical circular diagram, concentrated about a centre and generally divided into four quadrants of equal size; it is built up of concentric circles ('khor) and squares possessing the same centre (dkyil)."[1] A mandala is generally a multi-faceted diagram, which is a manifestation of a specific divinity "in the cosmos and as the cosmos" (Leidy 1997, 17). Because of this ingrained ambiguity, it is generally difficult to pin down any one single interpretation for a mandala. For instance, although it is generally a two-dimensional diagram, it depicts a three-dimensional model of the cosmos, with the elements earth, water, fire, and air on the outer, circular portions of the diagram (see Brauen 1997, 51–52). The square portions of the diagram indicate a palace in the middle, viewed from above; the nested squares indicate different elevations of the temple.[2] Moreover, the different sections of the mandala have analogues in the person meditating. The elements (i.e., earth, water, fire, and air) correspond to lower limbs of the body, while the squared sections of the palace correspond to the body, speech, and mind of the person (ibid., 51–53).

The four sections of the mandala indicate, among other things, the four cardinal directions, with south in the left quadrant. It is there, too, that the continent of

1. There are several different traditions within Tantric Buddhism. My main source is Martin Brauen's book *The Mandala: The Sacred Circle in Tibetan Buddhism*; Brauen bases his discussion on the Kālacakra tradition (Brauen 1997, 9–10). Different traditions also have different cosmologies. Although they might be contrasting, they are not contradictory; they are merely different ways of viewing the same issue (ibid., 22). The cosmology discussed here is based on the fourth/fifth century text *Abhidarmakośa*.

2. So do the nested circles of the outer part of the mandala: they are cylinders of elements (air, fire, water, earth) on which the palace planes stand (see Brauen 1997, 22–23).

Wikimedia Commons

Example 2.1. Manjuvajra-mandala with 43 deities, from Tibet, ca. 1400–1500. Museo d'Arte Orientale, Turin.

human beings, Jambudvipa, is situated (ibid., 18–20). In the center of the mandala is the mythical Mount Meru, which represents divinity and is what the person meditating attempts to reach (ibid., 21). Often there are gods depicted at the center of a mandala, with the principal deity in the middle, surrounded by attendant deities. Generally, there are additional figures outside the circular mandala as well (Leidy 1997, 17). See Example 2.1, where a total of 43 deities are portrayed on a 15th-century Tibetan mandala. Moreover, in Buddhist cosmology there exists a virtually infinite number of cosmoses in the universe; one mandala is a depiction of one such cosmos (Brauen 1997, 18–21).

Rautavaara probably learned of mandalas when he was acquainting himself with Jungian theories, since Jung used the word mandala to depict the "core atom" of man's psyche (von Franz 1997 [1964], 213); "the psychological expression of the totality of the self" (Jung 1972a [1950], 20). According to Jung, the basic motif of mandalas is

> […] the premonition of a centre of personality, a kind of central point within the psyche, to which everything is related, by which everything is arranged, and which itself a source of energy. […] This centre is not felt or thought of as the

> ego but, if one may so express it, as the *self*. Although the centre is represented by the innermost point, it is surrounded by a periphery containing everything that belongs to the self—the paired opposites that make up the total personality. This totality comprises consciousness first of all, then the personal unconscious, and finally an indefinitely large segment of the collective unconscious whose archetypes are common to mankind. (Jung 1972b [1950], 73.)

In Buddhist conception mandalas reflect not only the outer cosmos but also the microcosm, or the person, and the unity of the cosmos and microcosm (see Brauen 1997, 21). Jung's focus on the self is thus well within the bounds of traditional Buddhist thought. Notable is Jung's emphasis on the self and not the ego; the ego is the organized part of a person's personality, whereas the self contains also unconscious and sometimes contrasting contents, the "paired opposites" of the quote above. Such opposites include aspects of the male and female (in Jungian terms, the archetypes of animus and anima), heaven and hell, and light and dark (cf. Jung 1972b [1950], 88–90; 1972c [1955], 5). The latter, in particular, is significant in the present study of Rautavaara's music as discussed in subchapter 2.3.

It is unclear when Rautavaara first studied Jung's theories, but his works since at least the 1970s exhibit a knowledge of Jungian theories of archetypes and symbols, when angels, unicorns, and other archetypes began to appear as topics in his music (Tiikkaja 2014, 381–410). Rautavaara would also readily discuss Jungian concepts in his writings; for instance, he refers to Jung in many of the texts in his book *Mieltymyksestä äärettömään* (On the Affinity for the Infinite, Rautavaara 1998b), a collection of writings from the 1970s to late 1990s.

For Jung, mandalas acted as symbolic representations of the Self (von Franz 1997 [1964], 213; see also ibid., 161–162). A mandala is clearly a self-contained circular unit, but at the same time it is made up of four nearly identical constituent parts. Therefore, when considered as an artwork, it can be seen as a symbolic representation of artistic unity. The four sections of a mandala create a strong identity through sheer repetition, which is at the same time somewhat varied; often there are slight variations in the motifs in each of the sections.

2.1.2 Bilateral Symmetry as Explicit Symmetry

In his classic treatise on symmetry (*Symmetry*, 1952), Hermann Weyl begins by identifying two everyday usages of the word symmetry:

> In the one sense symmetric means something like well-proportioned, well-balanced, and symmetry denotes that sort of concordance of several parts by which they integrate into a whole. *Beauty* is bound up with symmetry. […]

> The image of balance provides a natural link to the second sense in which the word symmetry is used in modern time: *bilateral symmetry*, the symmetry of left and right, which is so conspicuous in the structure of the higher animals, especially the human body. (Weyl 1952, 3–4.)

The two meanings of the word refer to slightly different things: the former seems more like an aesthetic judgement, whereas the latter is a more technical observation. The two views are not mutually exclusive; they merely sum up two different and complementary ways of looking at the phenomenon.

When applied to the arts in general and music in particular, both of these views seem appropriate. In architecture, symmetry is traditionally a virtue and has been sought by builders for centuries (see Weyl 1952, 50, 55–58). The same is true for visual arts in various cultures. The earliest surviving mandalas date from ca. 9th–10th century (Brauen 1997, 12–14); Weyl gives other examples of symmetrical designs in visual art going back to antiquity (Weyl 1952, 8–15).

In terms of the overall structure of a piece of music, the ternary form, ABA, is clearly symmetrical around B, when the initial A section is repeated, sometimes slightly altered, after a contrasting B section. Similarly, the sonata form, being an extension of the bar form, can be reduced to a symmetric core, when the recapitulation repeats an altered form of the exposition after the development section.

However, any formal design in music is necessarily an abstraction because music is a time-bound artform. Symmetrical structures with respect to form are therefore perceived retrospectively, when the entirety of the music can be considered and contemplated. It is in this respect that Weyl's first sense of the word "symmetry" applies to music, specifically as a predominantly abstract notion of *beauty and proportion*.

The second sense that Weyl proposes, which is a more technical and practical description of symmetry, is that *bilateral symmetry* in music can be perceived in inversional relationships. Such relationships are easiest to perceive when they occur simultaneously or are close to each other; this is often the case when voices move in strict perpendicular motion. For example, this occurs when one voice moves up by a certain interval and another voice moves down by the same interval. A visual analogy could be made from a reflection in a mirror, or any other reflecting surface (see Example 2.2), such as where a bilaterally symmetrical image is formed by a landscape reflected on the surface of a lake. The picture might be used as an analogy for a musical passage where a melody and a bass line move in strict perpendicular motion; when one lines moves up, the other moves down by an identical increment. Rautavaara wrote many such passages in his music, starting with *Three Symmetrical Preludes* (1950), where the symmetry is precisely of this kind. In terms of pitch structure, inversional symmetry

Johann Jaritz – Own work, CC BY-SA 3.0. Wikimedia Commons

Example 2.2. Bilateral symmetry from a mirror reflection. The axis of symmetry is horizontal.

occurs when a set can map onto itself at some T_nI (Straus 2000 [1990], 78–79; Rahn 1980, 91). When considering pitch-class sets, a self-mapping feature must be true for other kinds of symmetries of as well, including transpositional symmetry (where a set can map onto itself at some T_n; see Straus 2000 [1990], 74; Rahn 1980, 92), and retrograde symmetry (where an ordered set maps onto itself under retrograde; see Rahn 1980, 92).

Inversional relationships are symmetrical even when the events are not concurrent. Such instances arise commonly from contrapuntal voice-leading techniques, for example in fugues where a theme is sometimes subjected to inversion, retrograde motion, or retrograde inversion. Compared with inversion, retrograde motion is a slightly less obvious case of symmetrical voice leading, since it involves a temporal dimension; in such a passage a stretch of music would be repeated from the last note to the first as a palindrome.[3] Several composers have made use of such forms, both as foreground events and as large-scale structures. See, for instance, Alban Berg's and Anton Webern's usage of palindromic forms (cf. Jarman 1979, 180ff and Bailey 1991). Rautavaara also wrote several pieces in palindromic forms, such as *Elegia* (1956), *Prævariata* (1957), and *Lu'ut* (Chants, 1965).

As bilateral symmetries are generally easily audible, they might be referred to with the term *explicit symmetry*. This term highlights the clearly discernible nature of such

3. The symmetrical nature of retrograde inversions would be even less obvious than retrogrades, since it obviously includes double axes of symmetry: harmonic and temporal.

symmetries and is applied to any bilateral symmetries, whether they are harmonies or formal structures. The crux here is that they are very likely meant to be heard and appreciated as symmetries. Generally, such symmetrical formations are written out on the foreground of the music and are clearly audible. When considering harmonic structures, what I call "explicit symmetry" amounts essentially to pitch symmetry.

In contrast, there can also be less audible symmetrical formations, and these instances could be referred to as *implicit symmetry.*[4] In my application, "implicit symmetry" refers to situations where the basic materials (such as twelve-tone rows) used by Rautavaara exhibit symmetry, but the actual music written from them do not. Implicit symmetries generally apply to harmonic structures (i.e., pitch class sets); they are therefore usually instances of pitch-class symmetry (as opposed to pitch symmetry of explicitly symmetrical formations).

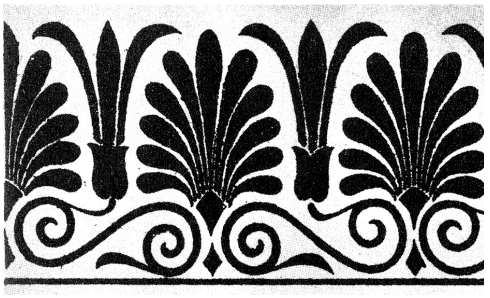
2.1.3 Translational Symmetry as Implicit Symmetry

Rautavaara's habit of using Olivier Messiaen's modes of limited transposition are well documented (e.g., Sivuoja-Gunaratnam 1997, 62, 110; Tiikkaja 2000, 29–31). The symmetry of Messiaen's modes and indeed any scale with a regular interval structure can be likened to ornaments in figurative art (i.e., the symmetry is translational rather than bilateral). A mathematical and geometrical discussion of this is given in Weyl 1952, 41–47. To summarize Weyl's discussion on the differences between bilateral and translational symmetry:

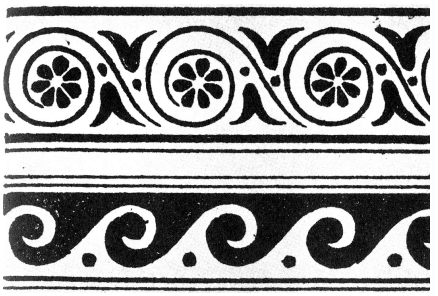
> The operation which defines bilateral symmetry, mirror reflection, is essentially a one-dimensional operation. A straight line can be reflected in any of its points *O*; this reflection carries a point *P* into that point *P'* that has the same distance from *O* but lies on the other side. Such reflections are the only improper congruences of the one-dimensional line, whereas its only proper congruences are the translations. Reflection in *O* followed by the translation *OA* yields reflection in that point A_1 which halves the distance *OA*. A figure which is invariant under a translation *t* shows what in the art of ornament is called 'infinite rapport,' i.e. repetition in a regular spatial rhythm. (Ibid., 47.)

Examples of translational symmetry in figurative art are given in Examples 2.3 and 2.4. The symmetry in Example 2.3 is of the dihedral type and in Example 2.4 of the cyclic type. Weyl elaborates further: "All translations carrying into itself a pattern of infinite rapport on a straight line are in this sense multiples of *na* of one basic transla-

4. Note that I do not use the term in the same sense as Eli-Eri Moura, who uses the term to indicate a situation where symmetrical procedures yield identical pitch classes on both sides of the axis of symmetry (Moura 2004, 32–33).



Example 2.3: Dihedral translational symmetry. (From Weyl 1952: 48).



Example 2.4: Cyclic translational symmetry. (From Weyl 1952: 49.)

tion *a*. This rhythmic may be combined with reflexive symmetry. If so the centers of reflections follow each other at half the distance 1/2*a*." (Ibid., 47–48.) The ornament in Example 2.3 combines translational symmetry with reflexive symmetry, as each of the translations is bilaterally symmetrical, whereas the cyclic symmetry of Example 2.4 only contains translations.

There seems to be a similar translational structure in musical scales with regular interval structures and visual ornaments (see Examples 2.3 and 2.4). This amounts to transpositional symmetry, where a set maps onto itself under some transposition. For example, the interval structure of the whole-tone scale is 222222. In the terms discussed above, translation *a* = 2 semitones. These semitonal leaps can be multiplied infinitely in theory, but of course what is reasonable in music is the multiplication in the area of normal hearing and audible interval differentiation—possibly within the range of the piano keyboard, for example. The translational symmetry in the whole-tone scale can be interpreted as dihedral, that is, the translation *a* can be seen as consisting of a whole tone divided in half with the two halves (semitones) being identical. This is merely a theoretical notion, since the very defining feature of the whole tone-scale is, after all, that there are no other intervals present besides whole tones. In terms of transpositional symmetry, the whole-tone collection maps onto itself at T_2.

This gives way to the notion of translational symmetries in more intricate scales. The interval structure of the octatonic scale, for example, is 12121212. Here, translations are in fact overlapping each other and regular periods in most concise form are either 121 or 212. The structure of the scale actually allows for translations 12121 and 21212 or larger, but for our purposes, the most concise ones will suffice.

The width of the translation is 4 semitones in the period 121. The axis of symmetry is between the second and third semitone, again on a tone that does not belong to the tetrachord formed by the period (on the tetrachord C–D♭–E♭–E, the axis of symmetry is the tone D). In the period 212, consisting of 5 semitones, the axis is

the semitone between the two whole tones (on the tetrachord C–D–E♭–F, the axis is between D and E♭, also known as an "odd axis")[5].

Theoretically a scale does not have a temporal dimension; it is rather a lattice or a filter for organizing tone material. However, if a symmetrical scale such as the whole-tone scale or the octatonic scale is played in ascending or descending order (as is indeed often the case with Rautavaara's music), translational symmetries do arise.

Weyl points out that ornamental symmetries often occur in continuous form, for example on vases where band ornaments go around the whole vase (ibid., 54–55). A musical analogy for this could be a kind of Shepard tone filtered through a regularly structured scale, where octave shifts would be imperceptible. A musical scale is rather like a line shooting through the pitch space where each pitch is unique and none are repeated. However, the concept of octave equivalency acts rather like a central axis on a vase. Weyl remarks on this kind of symmetry:

> Take a band ornament where the individual section repeated again and again is of length *a* and sling it around a circular cylinder, the circumference of which is an integral multiple of *a*, for instance 25*a*. You then obtain a pattern which is carried over into itself through the rotation around the cylinder axis by α = 360°/25 and its repetitions. The twenty-fifth iteration is the rotation by 360°, or the identity. (Ibid., 53.)

If in music the octave is likened to 360° in a circle or spiral, in the octatonic scale the semitonal patterns 121 and 212 are carried over into themselves 3.5 times within an octave. While 3.5 is certainly not an integer, this discrepancy is explained by the partial overlapping of the translations. A more clear-cut case is the dorian mode, the interval structure of which is 2122212. In this scale the translation equals the whole octave, so 2122212 is carried into itself precisely once within the octave. Of course, there is also another, somewhat shorter translation in the dorian mode, the period 22122, but as with the octatonic scale, these periods partially overlap each other and no integral multiple within the octave can be found.

I consider translational symmetries within musical scales as examples of implicit symmetry because they are collections that do not need to be played as scales; it is more like a sieve through which the chromatic scale is filtered to let a uniform interval structure through. Therefore, the symmetries it contains can remain hidden from the foreground of the music unless they are actively written out. Besides translational

5. An odd axis occurs when a set maps onto itself under inversion at an odd index number. This tetrachord, 4-10 (0235), maps onto itself at T_5I, and the index number is 5. (See Straus 2000 [1990], 43–46, 127–128.)

symmetry, other kinds of implicit symmetries can be conceived as well. Particularly with respect to Rautavaara's music, the use of symmetrical twelve-tone rows counts as implicit symmetry (see Chapter 2.3). This is for the same reason as with symmetrical scales; a twelve-tone series is an abstraction, a depository of musical material, which consists of intervals arranged in a particular order. A composer does not need to use a series in a linear manner, in which case symmetries would be easier to perceive; the symmetricity of a series remains a background abstraction. This is especially true in Rautavaara's music, where a series often merely serves as a starting point from which he deviates quite soon and does not adhere to its strict ordering. Therefore, such a series is not always easy to find on the foreground of the music.

2.1.4 Symmetry as an "Antidote Against Chaos"

Symmetry can be used as a means for controlling tone material; it is thus in essence a technical aid in composing. In post-tonal music, there is no longer a safety net of chordal functions to delimit the choices that the composer makes. Even though everything is—in theory at least—possible for the post-tonal composer in terms of tone material, in practice not everything is feasible. Igor Stravinsky, in his *Poetics of Music*, addresses this problem from a composer's point of view:

> [I]magination is not only the mother of caprice but the servant and handmaiden of the creative will as well. The creator's function is to sift the elements he receives from her, for human activity must impose limits upon itself. The more art is controlled, limited, worked over, the more it is free. As for myself, I experience a sort of terror when, at the moment of setting to work and finding myself before the infinitude of possibilities that present themselves, I have the feeling that everything is permissible to me. If everything is permissible to me, the best and the worst; if nothing offers me any resistance, then any effort is inconceivable, and I cannot use anything as a basis, and consequently every undertaking becomes futile. (Stravinsky 1970 [1942], 85.)

In short, if anything is possible, nothing ultimately is. After the breakdown of tonality there have been many efforts to establish a control system as powerful as tonality. Schoenberg's dodecaphony is perhaps the most notable such system with the most far-reaching repercussions in the 20th century (for example integral serialism). However, there has also been neoclassicism with its sense of distorted tonality, Hindemith's chordal hierarchy, Penderecki's system of clusters and so on. According to John Harbison, symmetry was a central means of attaining control over tone material after the breakdown of tonality:

> Ever since access to the full chromatic was gained by composers at the turn of the century, the mode of control of this resource has defined each composer's most crucial decisions. Whenever a new clarification in the use of the total chromatic has been achieved symmetry has played a crucial role. (Harbison 1992, 71).

Indeed, as Harbison writes, the analyses of George Perle and Milton Babbitt of 20th-century repertoire "spend much of their analytical pages showing the workings of symmetrical pitch structures in music of Varèse, Schoenberg, Stravinsky, Webern, Berg and the two authors themselves." (Ibid.)[6]

But using symmetry as an organizing principle is not limited to the 20th-century modernists that Harbison mentions. Alexander Sanchez-Behar's study of John Adams' music (Sanchez-Behar 2014) shows symmetry to be a pervasive element in Adams' minimalist music both in large-scale structural design and in foreground events. Such pieces as *Piano Gates*, *Phrygian Gates*, *Grand Pianola Music*, and *Fearful Symmetries* exhibit bilateral and translational symmetries, as well as rotational symmetry, which "changes the orientation of an object by shifting it around a fixed rotational axis point" (ibid., 47). Sanchez-Behar also notes the influence of Nicolas Slonimsky's book *Thesaurus of Scales and Melodic Patterns* on the music of Adams. Slonimsky's book is a referential collection of patterns that a composer may use to discover patterns similar to each other. Significantly, "Nearly all of the patterns are derived from the octatonic collection (set class 8–28), the enneatonic collection (set class 9–12), the hexatonic collection (set class 6–20), the whole-tone collection (set class 6–35) or twelve-tone rows" (Sanchez-Behar 2014, 58); most of these collections are quite central in the music of Einojuhani Rautavaara as well.

Using symmetrical formations can then be seen as a system for delimiting possibilities in composition. Symmetry offers a very clear-cut system that also allows for a great deal of freedom. It seems that this is what Rautavaara referred to when he quoted Jung's depiction of mandalas as an "antidote against chaos".[7]

Closely connected with the notion of symmetry as a technical aid in composing is the notion of symmetry as a manifestation of aesthetics. Symmetry in music can be interpreted as a means of attaining unity. As Weyl notes, "symmetry means something like well-proportioned, well-balanced, and symmetry denotes that sort of concordance of several parts by which they integrate into a whole" (Weyl 1952, 3).

6. Harbison refers specifically to George Perle's *The Listening Composer* and Milton Babbitt's *Words about Music*.

7. With "chaos," Jung referred to the psychological states of troubled individuals, whereas Rautavaara's reference is clearly to the breakdown of tonality at the beginning of the 20th century. Of course, he might well have thought of mandalas in non-musical settings as well.

The notion of symmetry as a means of attaining unity is indeed an old one. According to Klaus Mainzer (1996, 621–622),

> until the *Renaissance* there was a mandatory canon of proportions based on geometry which science used for a foundation of the laws of harmony in the world, and art used for a harmonious representation of the human body. According to the Antique ideal these proportional relations were to be mirrored in architecture as well, to make them graceful and consonant to the measure of man. In *modern times* this common basis of science and art broke apart. Mathematical natural science developed an abstract concept of symmetry that went beyond the geometrical theory of proportions. Art was no longer oriented to a strict geometrical canon of proportions according to the Antique model.[8]

But symmetry in art made a return in the beginning of the 20th century. "The fundamental revolution in art took place during the first decade of this century in the rise of *abstract art*. [...] [The cubism of artists like Picasso and Braque] followed Cézanne's pronouncement that objects are made of geometrical forms such as spheres, cones and cylinders. [...] In 1912 a theory of cubism was formulated." (Ibid., 622.)

In architecture, at the beginning of the 20th century the school of Bauhaus aimed again to construct houses in the measure of man. One way of attaining this was symmetry, a feature that was central already in the classical age: "Then A. Behne, in 1923, formulated the law of modern functional construction: space must 'stay in balance' between the 'relative'—the particular concrete accomplishment of purpose—and the 'absolute', the will to form." (Ibid., 628.) It is hardly a coincidence that Webern was interested in musical symmetries at the same time as German architects were into Bauhaus and in visual artists into Cubism.

Webern was hardly the only composer at the time to become interested in symmetries. George Perle begins his article "Symmetrical Formations in the String Quartets of Béla Bartók" (1955) with a brief discussion of symmetries in Impressionist music—the most evident symmetrical features being the prevalence of the wholetone scale in the music of Debussy (Perle 1955, 300). As Perle writes, the Impressionists' aim in using symmetrical devices was to suspend key centers and sense of motion, whereas "Bartók's intentions are precisely the opposite in every respect […]" (ibid., 302), meaning, presumably, that Bartók sought to bring a greater sense of focus to his music by using symmetrical formations. Bartók's symmetries are discussed in great detail in the rather extensive research his music has generated; in addition to

8. For a more in-depth review of historical notions of symmetry in art, see also pp. 117–132.

Perle, see, for instance, Lendvai 1971; Antokoletz 1975 and 1984; Honti 2006; and Jyrkiäinen 2012.

2.2 The Harmonic Circle: A Tool for Tracking Tertian Progressions in Non-Functional Harmony

Most of Einojuhani Rautavaara's music is based on tertian harmonies. However, it is not essentially tonal; notwithstanding some folk song arrangements, there are almost never any references to functional tonal harmony. Therefore, the music can be classified as post-tonal, even though in many cases the basic harmonic units are triads or other chords constructed of thirds. An apposite designation might be "triadic post-tonality," echoing the term as used by William Rothstein (1989, 280) and discussed further by Richard Cohn (1998a, 168). To investigate the relationships between such chords in a non-tonal environment, a tool called the Harmonic Circle is introduced below.

2.2.1 On the Possibility of Prolongation in Post-Tonal Music

Because of the prevalence of triadic harmonies, it might be tempting to treat Rautavaara's music as tonal and attempt to analyze it with tools originally devised for tonal repertoire. In addition to tertian harmony, Rautavaara's melodic writing might encourage attempts to read his music through Schenkerian prolongation theories, created for tonal music where voice leading and functional tonal harmony together form a hierarchic and consistent system.

But as Rautavaara's harmonic progressions almost always shun dominant-tonic relations and other staples of tonal harmony, Schenkerian graphs will not work, at least if the tonal premises of functional harmony and voice leading are used without emendations. In his 1987 article, "The Problem of Prolongation in Post-Tonal Music," Joseph N. Straus discusses issues that prevent the analysis of post-tonal music with Schenkerian techniques. He lists four conditions that are required of music for perceptions of prolongation to appear. They are as follows:

> • Condition #1: The consonance-dissonance condition: A consistent, pitch-defined basis for determining relative structural weight.
> • Condition #2: The scale-degree condition: A consistent hierarchy of consonant harmonies.
> • Condition #3: The embellishment condition: A consistent set of relationships between tones of lesser and greater structural weight.
> • Condition #4: The harmony/voice leading condition: A clear distinction between the vertical and horizontal dimensions. (Straus 1987, 2–5.)

Straus's first condition deals with the distinction between consonances and dissonances. This is a distinction which—in core tonal repertoire at least—is fairly well pronounced. Consonance arises from the triad and its intervals; all other sonorities and intervals are relatively dissonant (ibid., 2.) In post-tonal music, however, triads cannot be considered the pre-eminent source of consonance, even though Straus allows that a consonance-dissonance distinction might be established contextually (ibid., 4).

> Not only does post-tonal music abandon the triad as the ultimate source of consonance, but it usually abandons any consistent distinction between consonance and dissonance. In the absence of such a distinction, determinations of relative structural weight must depend on non-pitch criteria and will have poor results. (Ibid.)

The scale-degree condition (#2) deals with the relative weight of harmonies within the tonal system. For instance, a tonic triad has more weight than does a dominant triad (ibid.). But in post-tonal music, where there are no fixed hierarchies between "emancipated dissonances" (cf. Schoenberg 1984b [1926]), it seems impossible to agree on universal rules of harmony except possibly on a contextual basis (i.e., in a single work or within a group of works grouped together based on common harmonic features).

The embellishment condition (#3) establishes the rules by which a melodic motion can be said to prolong a harmony in a tonal context. As Straus writes, tonal voice leading needs only three types of melodic motion to cover all instances of prolongation: arpeggiation, neighboring tone, and passing tone (Straus 1987, 5). But as there are no universally agreed voice leading rules in post-tonal music, it seems impossible to distinguish between those melodic motions that prolong a harmony and those that do not.

Finally, condition #4, the harmony/voice leading condition, distinguishes between tonal melodies moving by steps (or being analyzed so, generally from the middleground graphs and moving deeper into the background) and harmonic intervals which are not adjacent in the diatonic collection (ibid.). Straus illustrates the difficulty of analyzing post-tonal prolongation with the highly chromatic set-class 3-1 (012), where harmonic and melodic intervals are indistinguishable (ibid.). By contrast, analyzing a 3-2-1 descent over a tonic triad in a tonal context easily satisfies the harmony/voice leading condition.

Straus's initial strict position against the possibility of post-tonal prolongation was countered by Steve Larson in his article "The Problem of Prolongation in *Tonal* Music: Terminology, Perception, and Expressive Meaning" (Larson 1997), where he posited that not even all tonal music satisfies the four conditions set out by Straus; on

the other hand, Larson gave examples of tonal repertoire where consonant intervals seem to prolong dissonant ones (ibid., 107). Larson's view was that one cannot distinguish between a consonance and dissonance before one hears prolongation taking place, whereas Straus's initial position was that one needs to know the difference in advance before one can judge whether or not prolongation is in fact occurring (Larson 1997, 128–129). Straus responded to Larson's article by offering a sort of compromise: "I would now prefer a more balanced view that sees consonance or stability and prolongation acting in reciprocal, mutually reinforcing ways. Stable elements are the ones most likely to be prolonged, and we can tell that they are stable because they are, in fact, prolonged." (Straus 1997, 138).

Olli Väisälä offered further commentary of Straus's conditions, and proposed an alternative view on the possibility of post-tonal prolongation. Unlike Straus, Väisälä (1999, 2002, 2004, and 2006) considers the registration of harmonies to be able to distinguish between functionally consonant and dissonant harmonies (2004, 26). His approach has to do with the concept of referential harmonies, namely work-specific harmonies that can be viewed as sources of functional consonance (2004, 1) or even consonances that apply only to parts of individual pieces (ibid., 11). In particular, Väisälä considers the overtone series up to the eleventh harmonic as a referential sonority in his analyses of compositions of Scriabin, Berg, Debussy, and Webern, all composed around 1910 (Väisälä 2002, 208ff).

Väisälä also refers to the proximity principle of voice leading (ibid., 12–15), according to which motion by small enough intervals (semitones or whole tones) is perceived as a melodic line. Furthermore, to investigate the relationships between harmonies, Väisälä discusses the notion of rootedness, which refers to "a property of harmonies deriving from their relationships with the harmonic series" (ibid., 26). Finally, the proximity principle of spacing is related to the proximity principle of voice leading, but as a reverse condition: "the avoidance of small intervals (semitones and whole tones) in consonant harmonies" (ibid., 26, 52).

The present study does not attempt to analyze prolongational structures in the music of Rautavaara, although his œuvre could be a fruitful topic for prolongational analyses. However, this study will lay the necessary groundwork for such analyses by pointing out such features of Rautavaara's harmonic writing that can be argued as more or less constant in most stages of his career.

The main analytical tool for discovering those features is called the Harmonic Circle, which shows the prevalence of tertian harmonies in Rautavaara's music in virtually all periods of his career. By tracing passages from different style periods of Rautavaara's music on the Harmonic Circle, the following chapters will suggest a

way of discerning referential harmonies, derivable from the Harmonic Circle, which can then be labeled as consonances. These consonances could be used as a harmonic basis for prolongational analyses, paired with a theory of atonal voice leading. Such a theory could be based an extension of tonal voice-leading models, or a permutational method such as the model proposed by Henry James Klumpenhouwer in his *A Generalized Model of Voice-Leading for Atonal Music* (1991). Moreover, the Harmonic Circle illustrates certain career-long preferences that Rautavaara had in moving from one harmony to the next. The Harmonic Circle could possibly also be used to analyze other post-tonal music where similar tertian harmonies are prevalent.

2.2.2 Definition of the Harmonic Circle

The Harmonic Circle is designed to serve primarily as a tool for analyzing non-tonal triadic repertoire and specifically that of Einojuhani Rautavaara. However, application of the Circle to certain tonal passages will show that it is rooted in tonal and diatonic spheres. Its applicability to both tonal passages and the music of Einojuhani Rautavaara will also bring into focus the harmonic lineage of Rautavaara's music.

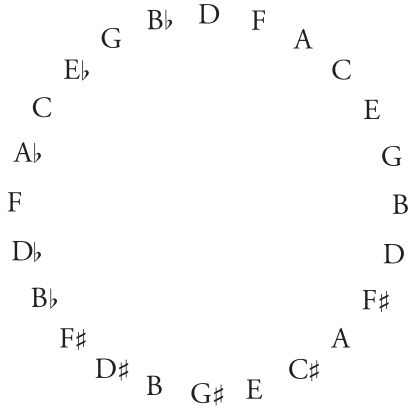
The Harmonic Circle consists of 24 pitches; each pitch class occurs twice. In essence, it is a circle of alternating major and minor thirds (interval classes 3 and 4), or, alternatively, two circles of fifths superimposed at the distance of a third—both major and minor, depending on where one starts. This is because the seven semitones that make up the interval of a fifth cannot be evenly divided. See Example 2.5.

Various properties of the Circle should be formulated. It is (1) enharmonic, meaning, for example, that C♯=D♭, etc.; it is (2) octave-equivalent, meaning that it has no fixed registers for any of the contained tones, either absolutely or relatively. That is, absolutely, any tone of the Circle can sound in any octave and relatively, of any two or more consecutive tones, the latter need not be in the same or higher octave than the former. Finally, (3) there is no prescribed direction for motion along the Circle.

2.2.3 Historical Precedents: Heinichen, Kellner, Weber, Riemann, Lendvai

The Harmonic Circle has several historic precedents to which it is related. Its closest relationship is with the circle of fifths, which was first introduced by Johann David Heinichen (1683–1729) in his *Der General-Bass in der Composition* (1728).

The circle of fifths is most commonly used for tracking key relationships. As William Drabkin defines it in the Grove dictionary, the circle of fifths is "The arrangement of the tonics of the 12 major or minor keys by ascending or descending perfect 5ths, thus making a closed circle" (Drabkin 2001, 866).



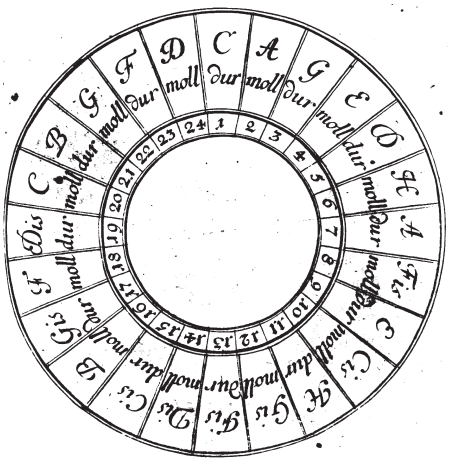
Example 2.5. The Harmonic Circle.

The Harmonic Circle is also related to other historical harmonic devices besides the circle of fifths. Like the circle of fifths, these devices are concerned mostly with key relationships of tonal harmony. Hence, Heinichen's regional circle (also in *Der General-Bass*, 1728) alternates the major keys of the circle of fifths with their relative minor counterparts (Example 2.6).[9] David Kellner's (*Treulicher Unterricht im General-Bass*, 1737) regional circle is the closest to my Harmonic Circle; Kellner proposed a double circle of fifths that aligns major keys with their minor counterparts (Example 2.7). In the 19th century, Gottfrid Weber introduced his regional chart (*Versuch einer geordenten Theorie der Tonsetzkunst*, 1821–24), shown here in Example 2.8. In Weber's chart, the circle of fifths is laid out on the vertical axis, while parallel major-minor relationships are shown by the horizontal axis.

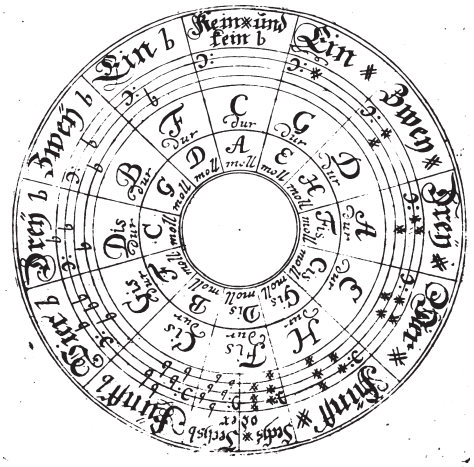
Hugo Riemann's Tonnetz, which has its origins in the 18th century, lays circles of fifths on the horizontal axis and circles of major thirds on the vertical axis (Example 2.9). Among other things, this layout makes it possible to calculate interval ratios along the lattice (see Lerdahl 2001, 43–44), if enharmonic equivalency is assumed. See also Richard Cohn's 1997 article "Neo-Riemannian Operations, Parsimonious Trichords, and Their 'Tonnetz' Representations" for a discussion about the origins and properties of the Tonnetz.

In his *Béla Bartók: An analysis of his music* (1971), Ernő Lendvai introduced the Axis system as a tool for analyzing the music of Béla Bartók. Lendvai based his system on the circle of fifths and read the tones of the circle as chord roots; therefore, the motion f-c-g on the circle of fifths signifies a subdominant-tonic-dominant relationship. This relationship is then replicated as one moves along the circle of fifths (see Example 2.10a). In its symmetry of subdominant and dominant motion in relation to the

9. The source for the present discussion of Heinichen, Kellner, Weber, and Riemann is Fred Lerdahl's book *Tonal Pitch Space* (Lerdahl 2001, 41–47).



Example 2.6. Heinichen's regional circle (from Heinichen 1728, 837).



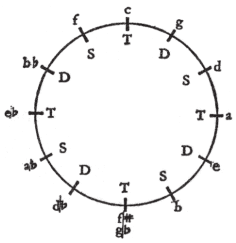
Example 2.7. Kellner's double circle of fifths (from Kellner 1737, 60).

C	—	a	—	A	—	f♯	—	F♯	—	d♯	—	D♯	—	b♯	—	B♯	—	g×
F	—	d	—	D	—	b	—	B	—	g♯	—	G♯	—	e♯	—	E♯	—	c×
B♭	—	g	—	G	—	e	—	E	—	c♯	—	C♯	—	a♯	—	A♯	—	f×
E♭	—	c	—	C	—	a	—	A	—	f♯	—	F♯	—	d♯	—	D♯	—	b♯
A♭	—	f	—	F	—	d	—	D	—	b	—	B	—	g♯	—	G♯	—	e♯
D♭	—	b♭	—	B♭	—	g	—	G	—	e	—	E	—	c♯	—	C♯	—	a♯
G♭	—	e♭	—	E♭	—	c	—	C	—	a	—	A	—	f♯	—	F♯	—	d♯
C♭	—	a♭	—	A♭	—	f	—	F	—	d	—	D	—	b	—	B	—	g♯
F♭	—	d♭	—	D♭	—	b♭	—	B♭	—	g	—	G	—	e	—	E	—	c♯
B♭♭	—	g♭	—	G♭	—	e♭	—	E♭	—	c	—	C	—	a	—	A	—	f♯
E♭♭	—	c♭	—	C♭	—	a♭	—	A♭	—	f	—	F	—	d	—	D	—	b
A♭♭	—	f♭	—	F♭	—	d♭	—	D♭	—	b♭	—	B♭	—	g	—	G	—	e
D♭♭	—	b♭♭	—	B♭♭	—	g♭	—	G♭	—	e♭	—	E♭	—	c	—	C	—	a

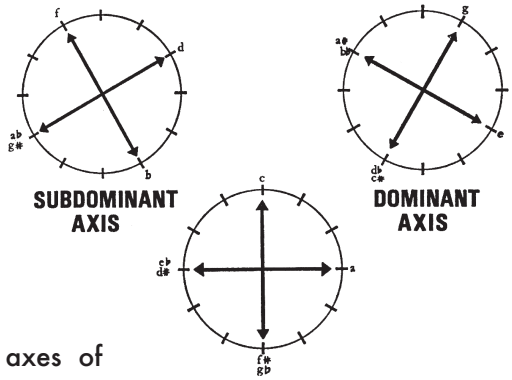
Example 2.8. Weber's regional chart (from Weber 1842 [1821], 320).

A♯	E♯	B♯	F×	C×	G×
F♯	C♯	G♯	D♯	A♯	E♯
D	A	E	B	F♯	C♯
B♭	F	C	G	D	A
G♭	D♭	A♭	E♭	B♭	F
E♭♭	B♭♭	F♭	C♭	G♭	D♭

Example 2.9. Riemann's Tonnetz.



Example 2.10a (left). Lendvai's Axis system (from Lendvai 1971, 2).



Example 2.10b (right). The three axes of Lendvai's Axis system (Lendvai 1971, 3).

tonic, the Axis system is related to Riemannian analysis. However, Lendvai extended his system to include tritonal poles and combined each of the four occurrences of the three functions into subdominant, tonic, and dominant axes (see Example 2.10b). According to Lendvai, the four roots on the tonic axis, for instance, are related to each other in the same way as relative major and minor keys are in tonal music (Lendvai 1971, 3). He attached particular significance to keys that appear on opposite sides of the circle, at the ends of the axes. He called these keys counterpoles:

> The pole-counterpole relationship is the most fundamental structural principle in Bartók's music, in respect to both small and large forms. Already the inner form of *Bluebeard's Castle* was conceived in pole-counterpole-tensions. It starts at the dark F♯ pole, rises to the bright C major chord (the realm of Bluebeard) and descends again to the gloomy F♯ (Lendvai 1971, 4).

Before Lendvai, George Perle also discussed tritonal poles in Bartók's music, focusing on their symmetry (Perle 1955, 302). He noted that inverting a symmetrical harmonic formation will cause the axis of symmetry to move by a tritone. Therefore, the tritonally-related symmetrical harmonies are closely related; this relationship seems to underlie and give credence to Lendvai's axis system.

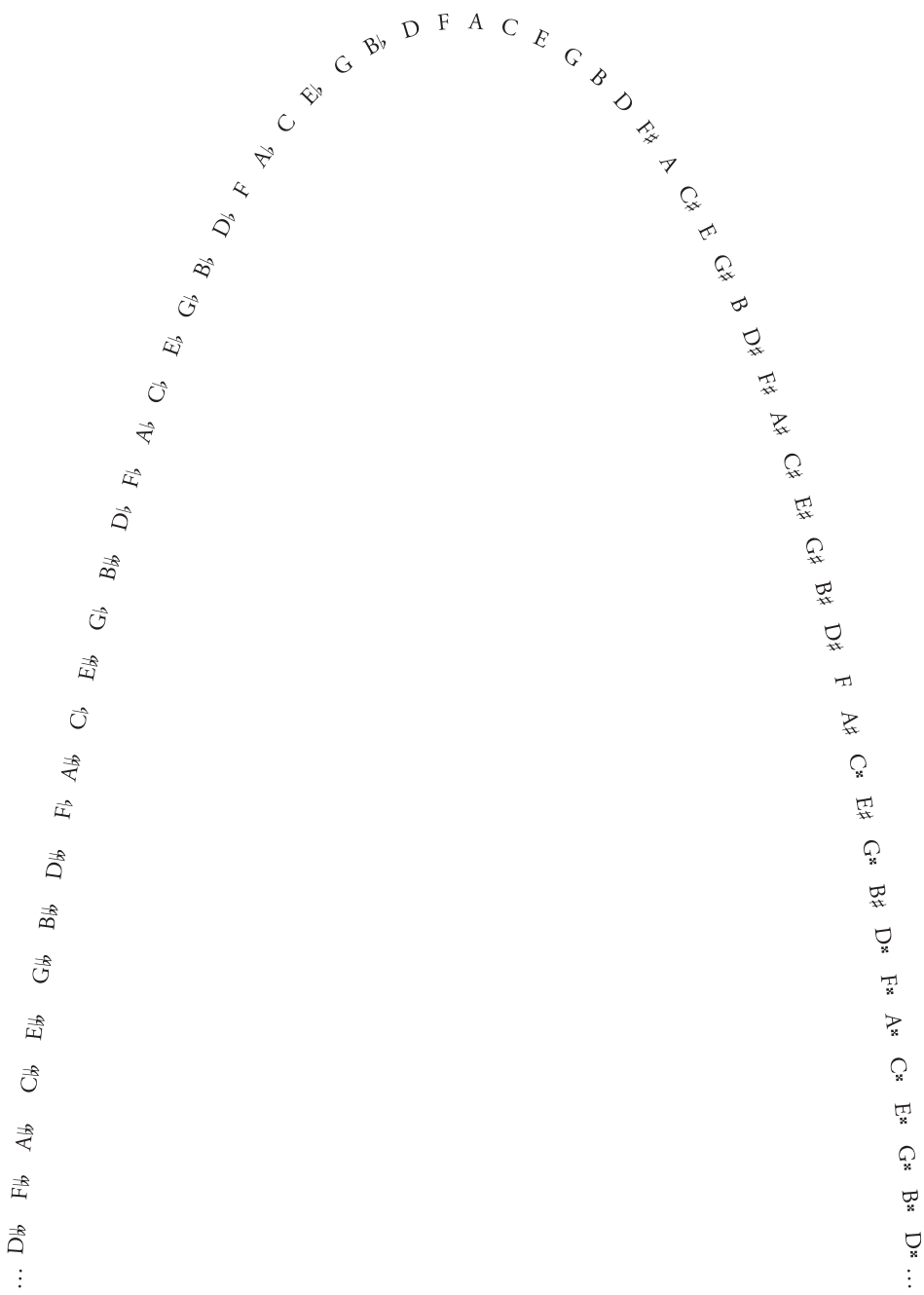
2.2.4 Areas on the Harmonic Circle

The basic use of the Harmonic Circle assumes octave equivalency and enharmonic equivalency. It is indeed because of these assumptions that it can be constructed as a circle to begin with. If these assumptions—and with them, equal temperament—are temporarily discarded, the basic structure of the circle will extend throughout the registral and chromatic universe. Example 2.11 provides an illustration. The alternation of major and minor thirds remains, but the series of pitch classes no longer wraps around to form a circle. The figure shows 64 distinct pitch classes. The "white" diatonic collection (DFACEGD) is situated in the middle. Accidentals are added moving to the left or to the right from the center; flats when moving down (left) in the registral space, sharps when moving up (right). Example 2.11 extends to the use of double flats and sharps. Triple accidentals would be needed if we were to pursue the sequence further. If the notes of Example 2.11 were tracked on the Harmonic Circle, they would make 2 2/3 rotations around the Circle.

Example 2.11 shows how the Harmonic Circle, via its connection to the circle of fifths, generates tonalities. Because there are two circles of fifths embedded within the Harmonic Circle, it exhibits the same feature with respect to tonal generation, albeit in a slightly condensed form. In the middle of the figure, notes DFACEGBD form the key of C major and its relative A minor. Moving two steps to the right (which equals one step along the circle of fifths instead of one step along the circle of alternating thirds), notes ACEGBDF♯A form the key of G major and its relative E minor. Accordingly, moving two steps to the left from the original position, the notes GB♭DFACEG form the keys of F major and D minor. In a very Riemannian sense, then, the Harmonic Circle outlines the tonic, dominant, and subdominant functions.

These key areas remain intact even when the Harmonic Circle is in its normal, circular form. They only become veiled when chromaticism increases in relation to the initial referential area—in this discussion, the key area of the natural, C major/A minor scales. However, if any different key is perceived as the "tonic," degrees of chromaticism will be calculated in relation to it, not to C major. Notwithstanding pragmatic enharmonic key changes in certain highly chromatic keyboard pieces, for example, enharmonic equivalence really becomes a factor only when the distance from the referential area to the chromatic area is roughly the same either via flats or sharps.

It is worth noting that when the Harmonic Circle is used as a circle, the way that it is intended, the diatonic areas are framed by identical tones. For example, as was discussed above, segment DFACEGBD forms the key of C major. One of the two D pitches is, strictly speaking, redundant because of octave equivalency and equal tem-



Example 2.11. The Harmonic Circle as a non-enharmonic parabola.

perament. However, for the sake of convenience, both tones may be included. This facilitates the tracing of harmonic progressions on the Circle.

If the redundancy is eliminated, only the seven tones of the diatonic scale remain, each appearing only once. The tonic root thus appears directly in the center of its own key area. In the case of C major, there are three tones on either side of the root tone in the appropriate segment of the Harmonic Circle: DFACEGB.

2.2.5 Some Tonal Progressions

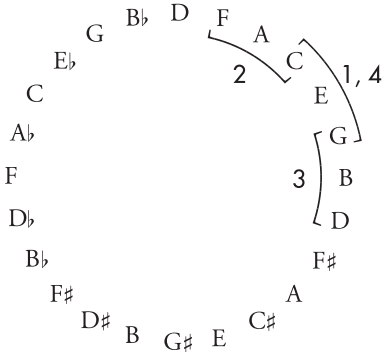
The Harmonic Circle neatly illustrates some of the basic tonal progressions. The basic progression I–IV–V–I is illustrated in Example 2.12a. The cadence progresses along the circle of fifths, starting with the C major chord and circling it before settling back on the tonic. Example 2.12b illustrates a common variation of the basic cadence, namely I–ii^7–V–I. Here, the subdominant function is supplied by a minor seventh chord on the second degree. The cadence no longer progresses strictly along the circle of fifths, because the F major chord is replaced by its relative minor, the D minor chord.

The progressions of Examples 2.12a and 2.12b remain within C major tonality. Progressions that incorporate the iii and vi chords are equally well illustrated by the Harmonic Circle. As an example of the latter, consider the first 10 measures of Beethoven's Violin Sonata Op. 24 "Spring," shown in Example 2.13a.[10]

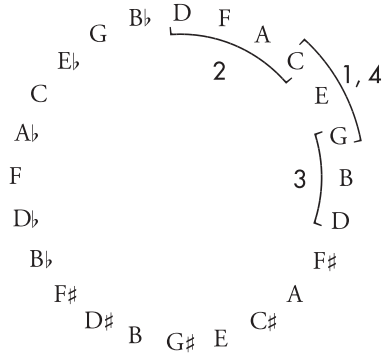
The tonic F major proceeds in measure 3 to the sixth degree (D minor), in measure 4 to the second degree (G minor), and in measure 6 to the dominant seventh (C^7); this progression is repeated, with some inversions, in measures 8 and 9 before settling back on the tonic F major in measure 10. This progression is seen on the Harmonic Circle in Example 2.13b.

Example 2.13 reveals an apparent weakness in the Harmonic Circle with respect to tonal passages. The dominant seventh chord cannot be neatly traced on it. This is because the alternation of major and minor thirds leads the seventh chord on the dominant (in this case, the C major seventh chord) out of the tonic key; it tends to become tonicized in its own right by raising the B♭ of F major into a B♮ of C major. Nevertheless, a dominant seventh chord can be found quite close to the tonic, albeit not in a continuous form; it can be interpreted as two separate pairs of thirds that still remain within the tonic area. In the context of F major, the tonic area is outlined by the segment GB♭DFACE of the Circle, leaving out the doubled G. The dominant seventh, then, is formed by the GB♭ and CE thirds that frame the tonic area. In fact, these pairs of thirds mark the boundary of the key of F major; in the northwest quad-

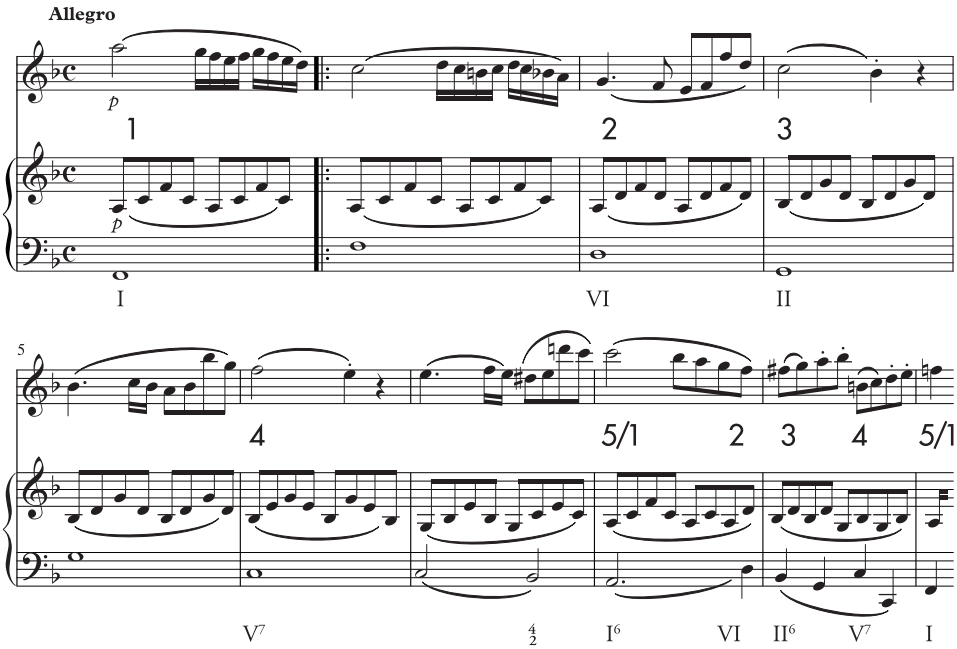
10. The harmonic analysis is quoted from Aldwell & Schachter 2003, 159–160.



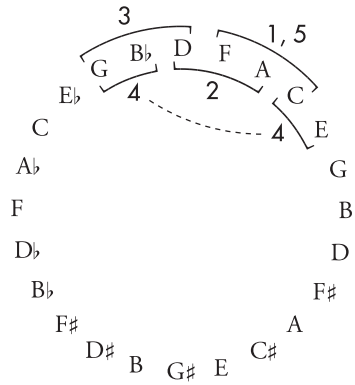
Example 2.12a: I–IV–V–I on the Harmonic Circle.



Example 2.12b: I–ii^7–V–I on the Harmonic Circle.



Example 2.13a. Beethoven: Violin Sonata Op. 24, mm. 1–10.



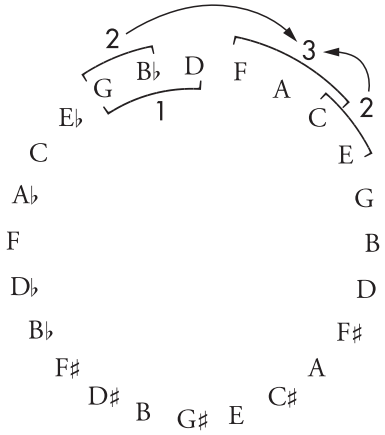
Example 2.13b. Harmonic motion of example 2.13a on the Harmonic Circle.

rant of the Circle, E♭ is no longer a member of F major, and neither is the B♮ in the east. These thirds are equidistant from the tonic root F; when the dominant seventh progresses to the tonic, the motion from the borders of the key area to its core fits the perception of strong arrival in the cadence V^7–I (see Example 2.14a). Furthermore, voice leading issues corroborate this interpretation; G and B♭ are clearly common tones between ii and V^7 (or its inversion as in Example 2.14b), so that if the ii chord lies in the northwestern quadrant of the Circle, notes G and B♭ remain in V^7, while note D moves through the leading tone E to the root F. Note C in V^7, of course, is the root of the dominant seventh.

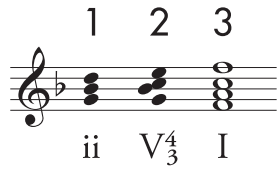
The preceding figures have remained within the tonic key, so the progressions have been contained to the tonic key area. The following figures illustrate some departures from the tonic key area. First, let us compare two alternative predominants. Example 2.15a illustrates the common cadence ii–V–I, where the predominant remains in the key area.[11] In Example 2.15a, the D minor triad (ii) remains in the area of C major as does the dominant G major. In Example 2.15b, the predominant is an applied dominant to the G major. Here, the applied dominant with its raised third leads the progression temporarily out of the key of C major but returns when the tonic is again heard. On the Harmonic Circle, this is illustrated by the brief venture to the southeastern quadrant. The G major chord receives more emphasis when the applied dominant D major is used than when the predominant belongs clearly to the tonic key. In Example 2.15b, the dominant tends to be tonicized even if the tonicization is brief. With its departure from the tonic key area, the progression shown in Example 2.15b fits the intuition that it is more expressive and dynamic than the one in Example 2.15a.

Besides the fragmentation of a dominant seventh chord on the Circle, another weakness has to do with the minor mode. When considering a cadence, the tonic and subdominant, both being minor chords, do lie on adjacent, partly overlapping segments of the Circle, but the dominant, a major triad, leaps to the opposite side (Example 2.16a). The issue becomes even more complicated when we consider more commonly used chords than the simple triads of Example 2.16a—for instance, a half-diminished seventh chord on the ii for a subdominant, and a dominant seventh chord for a dominant (Example 2.16b). It is freely admitted that for these sorts of passages, there are more convenient analytical tools than the Harmonic Circle; however, the more convoluted paths for passages in minor modes do fit the intuition that

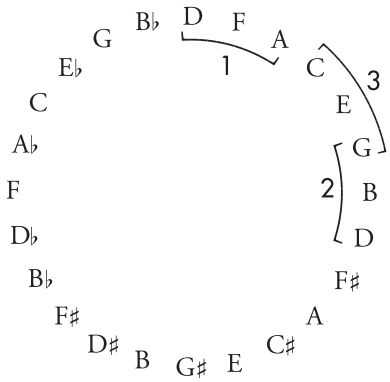
11. For the sake of clarity, the dominants in Examples 2.15a and 2.15b do not have sevenths, but as before, if we were to mark them in the figures, the sevenths would outline the respective harmonic areas; the D-F dyad at the top of Example 2.15a, and the A-C dyad in Example 2.15b. The D and A, respectively, would be doubled tones.



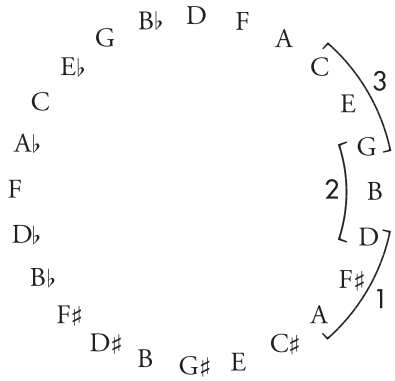
Example 2.14a. ii–V7–I on the Harmonic Circle.



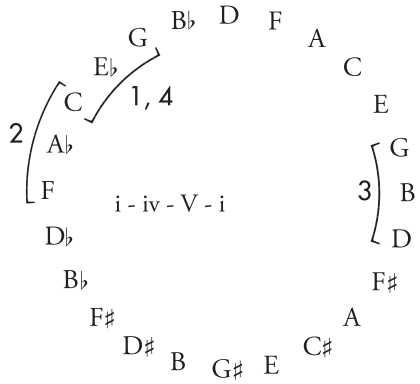
Example 2.14b. Cadence to F major.



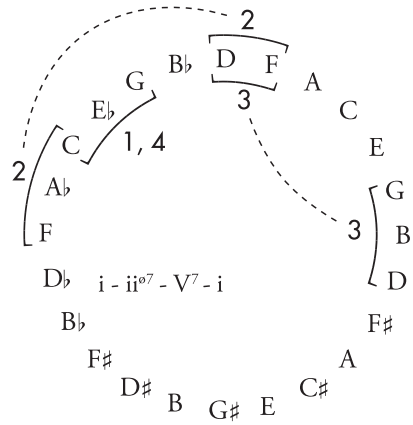
Example 2.15a. ii–V–I on the Harmonic Circle.



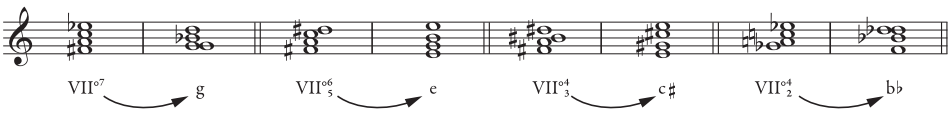
Example 2.15b. V/V–V–I on the Harmonic Circle.



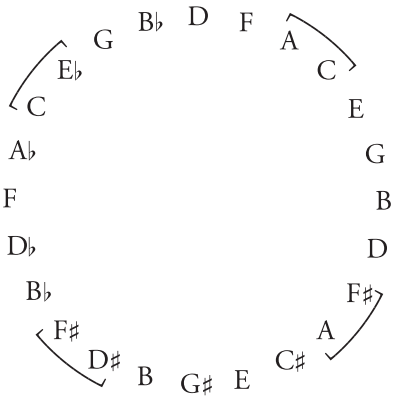
Example 2.16a. A minor-mode cadence with simple triads of the Harmonic Circle.



Example 2.16b. A minor-mode cadence with seventh chords of the Harmonic Circle.



Example 2.17a. Progressions from diminished seventh chords.



Example 2.17b. The diminished seventh chords of example 2.17a on the Harmonic Circle.

the minor mode is in many cases more expressive than the major mode (for a discussion of the reasons for the affective power of the minor mode, see, for instance, Meyer 1961 [1956], 222–229). One of the reasons is the potential for chromaticism in the minor mode, even when a passage does not ostensively contain chromatic motion (ibid., 225). Again, the leaps to various segments of the Circle in Example 2.16 does point to greater chromaticism in the minor mode than in the major mode.

A slightly different example of the Harmonic Circle in a tonal context illustrates the concept of key areas—or, to be more precise, the lack of them. The progressions in the previous figures have stayed quite close to tonic key areas, but Example 2.17a illustrates four examples of a commonly used tonal chord that never has a fixed home key. The diminished seventh chord is a rather unstable chord that was one of the most expressive devices of Baroque and Classical harmonic practices. The reason for this is, of course, its great degree of dissonance and complete symmetry. Its expressive power emerges also from its un-situatedness in the tonic-dominant system, as shown in Example 2.17a. In an enharmonic system, the same diminished chord can resolve equally well to four distinct triads, although the tonal context (global or local tonic) will determine the actual spelling of each diminished seventh chord. Thus, the diminished seventh chord is spelled differently in each of the four progressions of Example 2.17a, but all of them contain the same four notes enharmonically.

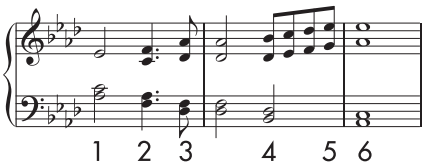
The diminished seventh chord is constructed of three or four consecutive minor thirds, depending on how one interprets it; the fourth consecutive minor third maps back to the first note. Because it is not constructed of alternating major and minor

thirds, it cannot be directly tracked on the Harmonic Circle. But if the minor thirds are separated, an interesting observation can be made. The diminished seventh chords of Example 2.17a are placed on the Harmonic Circle in Example 2.17b. The four minor thirds form four distinct, symmetrically placed two-note segments on the Harmonic Circle. Each of the four pitch-classes occurs twice in the four dyads.

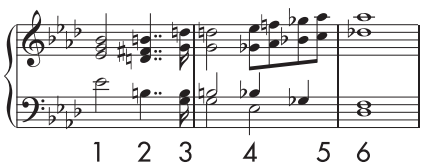
The way that the diminished seventh chord is laid out on the Harmonic Circle illustrates quite well the versatility and unsituatedness of the chord in a tonal context. The layout fits the intuition that a diminished seventh chord really has no clear location in tonal harmony; each of its four possible resolutions in example 2.17a is equally satisfying.[12] On the Harmonic Circle, the diminished seventh chord can resolve to any of the eight chords that lie adjacent to the four dyads of the diminished seventh chord. If the chord resolves to a minor chord (which is the more common case), the resolving chords are found in the clockwise direction from each of the dyads (in Example 2.17b, the G minor, E minor, C♯ minor, and B♭ minor triads; if the chord resolves to a major chord, the resolving chords lie in the counterclockwise direction from the dyads (in Example 2.17b, the B♭ major, G major, E major, and C♯ major chords).

The Harmonic Circle can also be used to track harmonic progressions even when they depart from traditional tonal harmony. For example, in the Romantic era, Richard Wagner's œuvre famously stretched the boundaries of harmonic practices that had developed during the baroque and classical eras, with its drawn-out cadenzas (e.g., in *Tristan und Isolde*) that seem to evade resolution for long periods of time. Because the Harmonic Circle is constructed of consecutive thirds, passages featuring mediant bass lines seem to be especially well suited for analyzing with the Harmonic Circle. Consider, for instance, the Grail motive of Wagner's last opera *Parsifal* (see Example 2.18a), where the roots of the harmonies proceed from the initial A♭ major chord in descending thirds before a cadence back to A♭ major. When the passage is tracked on the Harmonic Circle, the harmonies move stepwise in counter-clockwise motion: from the initial A♭ major chord to F minor, D♭ major and B♭ minor chords. The fifth chord, the dominant E♭ major, leaps to the other side of the initial A♭ major and thereafter resolves to it rather neatly (Example 2.18b). The harmonic progression seems quite consonant and does not contain modulating elements; the consecutive chords remain quite close to each other. This kind of parsimonious harmonic motion has been extensively studied by neo-Riemannian theorists; see particularly Richard

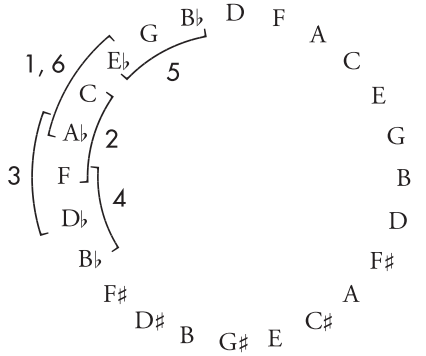
12. In addition to the four minor triads in Example 2.17, diminished seventh chords could also resolve to major chords. Example 2.17a is quoted from Aldwell & Schachter 2003, 601.



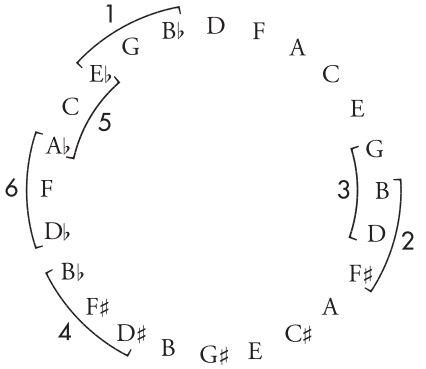
Example 2.18a. The Grail motive from Richard Wagner's Parsifal.



Example 2.19a. The Grail motive affected by Klingsor's motive.



Example 2.18b. The passage of example 2.18a on the Harmonic Circle.



Example 2.19b. The passage of example 2.19a on the Harmonic Circle.

Cohn's analysis of the same passage in Cohn 1996, 32–33.[13] See also Fred Lerdahl's analysis (Lerdahl 2001, 119–136), from which my Examples 2.18a and 2.19a are quoted; Lerdahl approaches the music from his conception of Tonal Pitch Space.

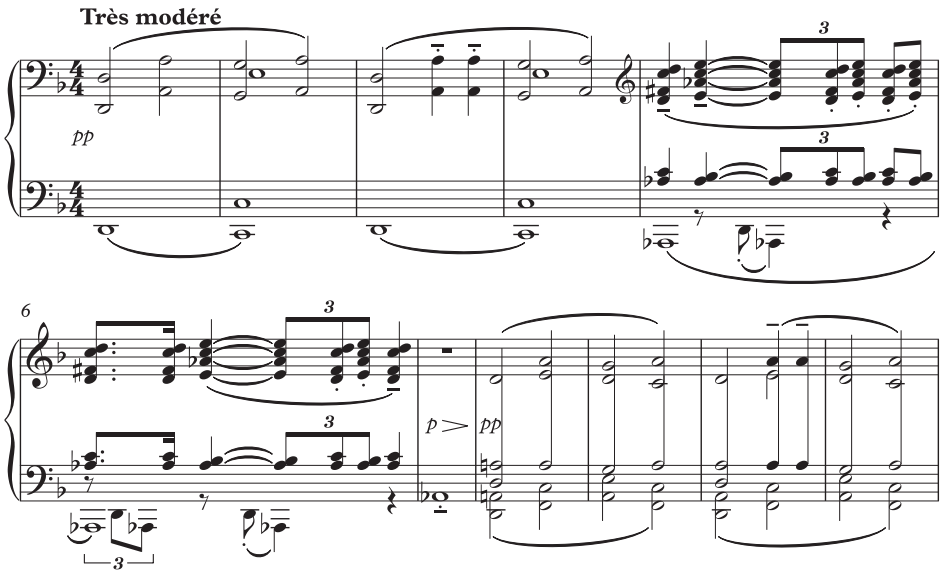
Later in *Parsifal*, the Grail motive becomes affected by Klingsor's motive, and the resulting chromaticism breaks up the neat mediant bass lines of the original Grail motive. As shown in Example 2.19a, the motive now begins with an E♭ major chord, proceeds to B minor, G major, E♭ minor and A♭ major chords before resolving to a D♭ major chord—a whole step down from the initial E♭ major triad. The harmonic motion of this passage sounds much tenser than the original Grail motive, and when we place it on the Harmonic Circle (Example 2.19b), we can see that the harmonies jump around, with hardly any common tones, much less dyads—unlike the passage of Example 2.18—between consecutive chords. Moving from the initial E♭ major chord to the following B minor chord, all notes of the initial triad are altered by a semitone. Motion between the second and third chords (B minor and G major) is

13. Neo-Riemannian theories were sparked by Chapter 8 of David Lewin's *Generalized Musical Intervals and Transformations* (Lewin 2007 [1987], 175–192), where he mapped networks of harmonic motions by using graphs that indicate relationships between chords. See also Douthett & Steinbach 1998; Gollin 1998; Derfler 2010. The potential for illustrating parsimonious voice leading between chords might make the Harmonic Circle an interesting tool for neo-Riemannian analysts. See Chapter 2.2.6 for further discussion about neo-Riemannian operations and the Harmonic Circle.

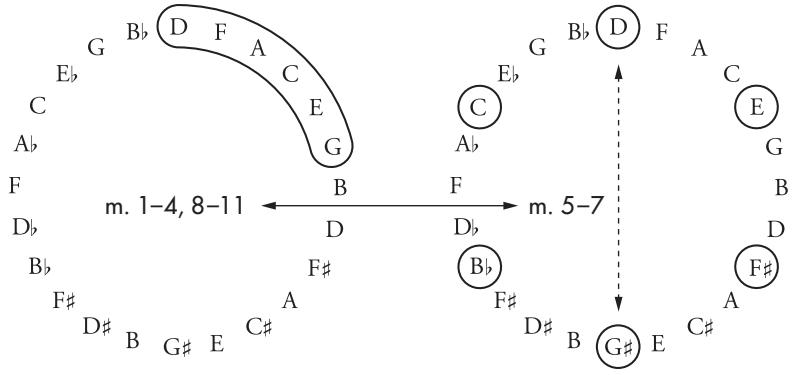
the most parsimonious of this passage, as the harmony changes much as it did in the unaltered Grail motive (Example 2.18), the roots of the chords a third apart—and moving in stepwise motion along the Harmonic Circle. There is again a huge leap from G major to E♭ minor (chords 3 and 4), as each of the notes of the G major triad are altered by a semitone; these two chords form a Hexatonic pole (neo-Riemannian operation H; see Chapter 2.2.6) and on the Harmonic Circle this is depicted as a leap to the opposite side of the circle. Between chords 4 and 5 there is only one common tone (E♭), while the other two notes of the E♭ minor triad must move by a whole tone. The final motion between chords 5 and 6 is rather similar, albeit slightly less energy-consuming, with one common tone (A♭), one semitonal motion (C⟶C♯), and one whole-tone motion (E♭⟶F).

In the following chapters, the Harmonic Circle is often used to illustrate harmonic areas and motions between them. The chromatic motion between the harmonies in Example 2.19, and their respective locations on opposite sides of the Harmonic Circle is one small-scale instance of this; another is seen in Example 2.20. The introduction to Claude Debussy's opera *Pelléas et Mélisande* contains the juxtaposition of the white diatonic area and the whole-tone collection (Example 2.20a). The diatonic area forms a continuous segment of the Harmonic Circle, while the symmetricity of the whole-tone collection is illustrated by the even, symmetrical layout of its constituent pitch-classes around the circle; these are illustrated in Example 2.20b. The example also indicates the salient tritone-relation that occurs between the bass tones of the diatonic collection and the whole-tone collection, and is also on the foreground in the bass voice in the whole-tone sections of the passage. The example illustrates, on the one hand, the compact diatonic harmony, and on the other, the symmetrical and exotic whole-tone harmony, as well as the differences between the two.

One more example from non-classical repertoire will illustrate the applicability of the Harmonic Circle to such triadic progressions that are not written out with traditional tonal functions or voice leading. The progressive rock group Yes's song *Awaken* features a triadic passage that is elaborated in many ways during the climaxing section of the song. It also appears approximately midway through the song as a restless, waltz-like passage that foreshadows the grandiose culmination at the end of the 15-minute composition. The triad progression is illustrated in Example 2.21a. On the studio version of the song, on the album *Going for the One* (1977), the passage begins at 10:35 and its first iteration ends at 10:51. It is then repeated several times, always slightly intensified, until its last full iteration at 12:48–13:03 (it is followed at 13:03–13:20 by an incomplete and transposed repetition that provides a cadence to the original E major in the coda that follows). The passage is designed to provide a



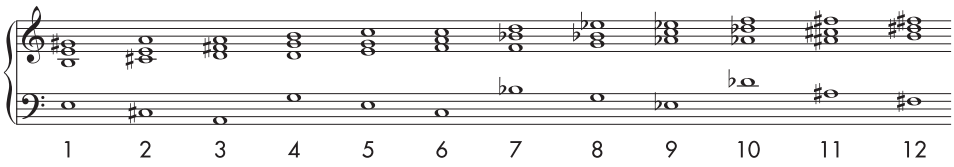
Example 2.20a. Claude Debussy: Pelléas et Mélisande, mm. 1–11.



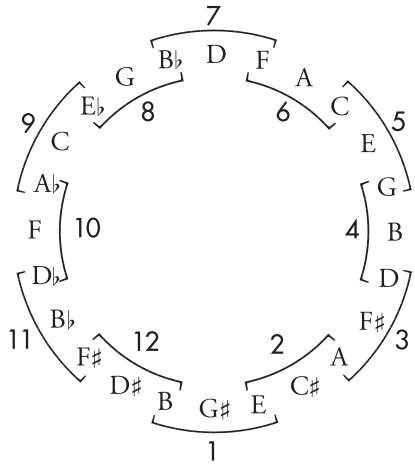
Example 2.20b. The harmonic areas of Example 2.20a on the Harmonic Circle.

continuous motion through the tonal space so that the final B major chord acts as a dominant to the E major chord that begins the next repetition. The passage itself is constructed of four groups of three triads. These groups are outlined by the descending bass line which itself forms an arpeggiated triad before leaping up by a seventh to the beginning of the next group. The final triad of each group functions as a dominant to the first chord of the following group. The dominant function is rather weak because there are no sevenths in the chords, but the very lack of dominant sevenths enhances the uniformity of the triadic chord progression.

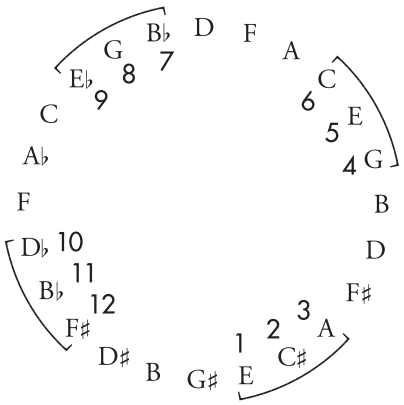
When viewed on the Harmonic Circle, the motion of chords becomes clear. It is evident that the motion could continue infinitely, as the chords proceed uniformly



Example 2.21a. Chord reduction of Yes's Awaken, 10:35–10.51



Example 2.21b. The chord progression of example 2.21a on the Harmonic Circle.



Example 2.21c. The bass line of example 2.21a on the Harmonic Circle.

in a circular manner, retaining one note and inflecting one by a semitone and one by a whole tone. On the Harmonic Circle, the triads proceed in a counter-clockwise motion, moving in a uniform fashion (Example 2.21b).

Moreover, the four triads outlined by the uniform bass motion throughout the passage divide the Harmonic Circle symmetrically. The first bass triad, heard under the first triads of the harmony, forms an A major chord, found on the southeastern quadrant of the Harmonic Circle. The second triad of the bass line is C major, found in the northeastern quadrant, the third an E♭ major triad, in the northwestern quadrant, and finally the fourth triad, an F♯ major chord, in the southwestern quadrant. Note too that the C major and F♯ major, as well as A major and E♭ major chords, are directly on opposite sides of the circle, indicating tritone relationships (Example 2.21c).

2.2.6 Neo-Riemannian Operations and the Harmonic Circle

The Harmonic Circle defines a transformational space and is in essence an analytical tool that helps to visualize distances and motions between harmonies particular to that space. Its features include a heavy emphasis on neo-Riemannian L and R opera-

tions (see below) because of the way adjacent harmonies are formed in this particular space. Consequently, seven-note segments of the Circle delineate diatonic areas. Other scales are not as readily indicated by this particular space; however, as the analyses show, symmetrical scales (such as the octatonic collection, which is of particular importance to Rautavaara's music) can also be visualized on the Harmonic Circle.

Why use transformational spaces in music analysis? As Joseph N. Straus notes (2011, 46–47),

> In recent years, music theory has taken a geometrical turn, what might be called a new space age. Spatial and geometrical models of musical relationships have been appearing in great profusion… Part of the motivation for this is simply practical: information, including musical information, is often relatively easy to assimilate in visual form, and a picture may be worth a large number of words and sounding tones.
>
> Beyond their aesthetic appeal and pedagogical value, musical spaces create interpretive possibilities because they may be to some extent 'embodied' (Brower 2008 ["Paradoxes of Pitch Space," *Music Analysis,* vol. 27, No. 1]). That is, they comprise an environment within which we can do the familiar cross-domain mapping between our embodied experiences and musical motions: up and down, in and out, forward and back, near and far, quick and slow, from a source along a path toward some goal, whether smoothly and directly, or in fits and starts.

As noted by Straus, various other transformational spaces have been discussed in recent analytical literature. In the analyses of the present study, spaces other than the Harmonic Circle are at times more elegant and apposite for the piece being discussed; in such cases, the alternative spaces are considered in the discussion. Still, at the same time, I will hold the Harmonic Circle as a "common denominator" for the analyses. Even though it might be argued to be a less elegant analytical tool than others for analyzing a particular passage of music, I still consider the Harmonic Circle to be a sufficiently demonstrative tool for pointing out œuvre-wide connections in Rautavaara's music.

The Harmonic Circle can be used to indicate distances and motions between harmonies. Greater parsimony is generally shown in cases where two harmonies, such as triads or seventh chords, lie close to each other on the Harmonic Circle than in cases where they appear in different sections. This is mainly because neighboring harmonies on the Circle are likely to share pitch classes. There are exceptions, however. For example, these include parallel major and minor triads, which do not lie particularly close to each other in the Harmonic Circle. Parallel triads share two common tones and alter the third by a semitone. Motion between the two triads (neo-Riemannian

operation P) is therefore as parsimonious as the other two basic neo-Riemannian operations (L and R), which, by contrast, do occur between adjacent sections of the Harmonic Circle. Parsimony is a central preoccupation of neo-Riemannian analysis, so the following two subchapters explore some parallels between the Circle and neo-Riemannian analytical tools.

2.2.6.1 Six Basic Neo-Riemannian Operations

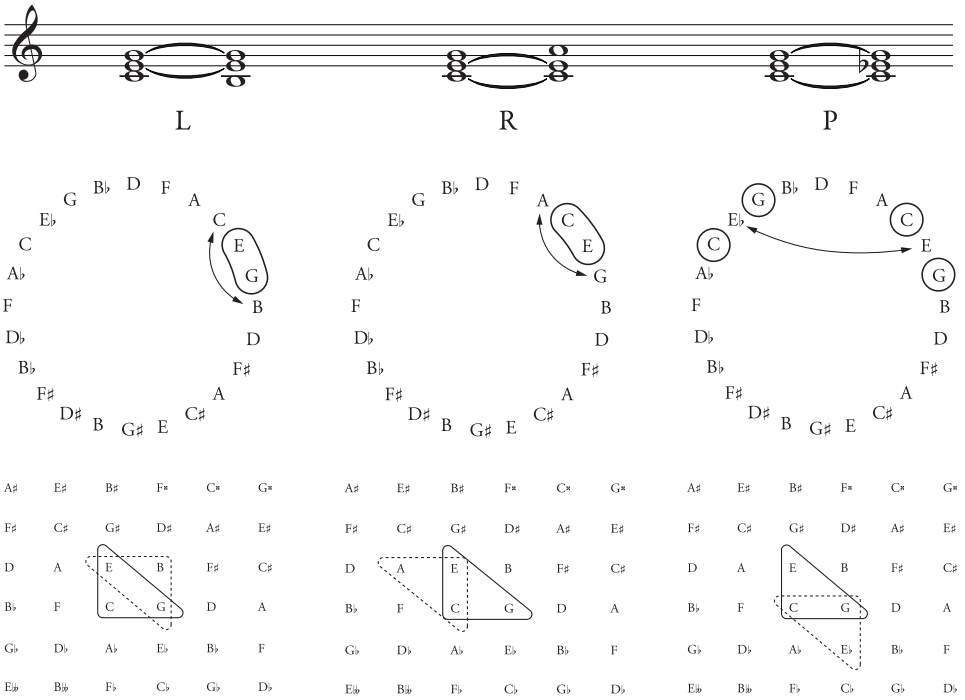
Neo-Riemannian theories have been developed by various theorists since the late 1980s to study connections between triads particularly from the Romantic period onwards, when increasing chromaticism began to cause difficulties for tonal analysis. Because the Harmonic Circle is a compound cycle of interval classes 3 and 4, it can be used to show the neo-Riemannian operations L (Leading-tone exchange) and R (Relative major/minor). These basic operations are widely discussed in neo-Riemannian theory; see, for instance, Cohn 1996, 12; Gollin 1998, 195–197; or Douthett and Steinbach 1998, 242ff. When operation L is performed on a triad, it retains that triad's minor third and alters the remaining tone by a semitone. For example, when L is applied to a C major triad, it retains notes E and G, while the major third of the triad (between C and E) is altered by a semitone. Therefore, the root of the C major triad moves by a semitone to its leading tone B; conversely, if L is applied to an E minor triad, its fifth B moves by a semitone to C.

Operation R retains the major third between the two triads. Therefore, a C major chord retains notes C and E, while its fifth G moves by a whole tone to A, yielding the relative minor of the original C major.

By contrast, operation P (Parallel major/minor) retains the fifth of the first triad (C and G of C major) and alters the third of the triad by a semitone (E⟶E♭). Therefore, a C major triad will transform into C minor. This operation is not as neatly illustrated on the Harmonic Circle as are operations L and R (see Example 2.22). L and R remain in the same area of the Circle, while P must be shown by using the doubled tones C and G on the northeastern and northwestern quadrants of the Circle.

The bottom line of Example 2.22 shows the corresponding operations on a traditional Tonnetz, and the common tones retained under operation P in particular are more convincingly shown on the Tonnetz than on the Harmonic Circle. While operation P is not as elegantly illustrated on the Circle as are L and R, the rather long distance between parallel triads does fit the intuition of expressiveness of modal change; of the contrast between major and minor triads that have the same root.

The three basic neo-Riemannian operations can be combined to illustrate further



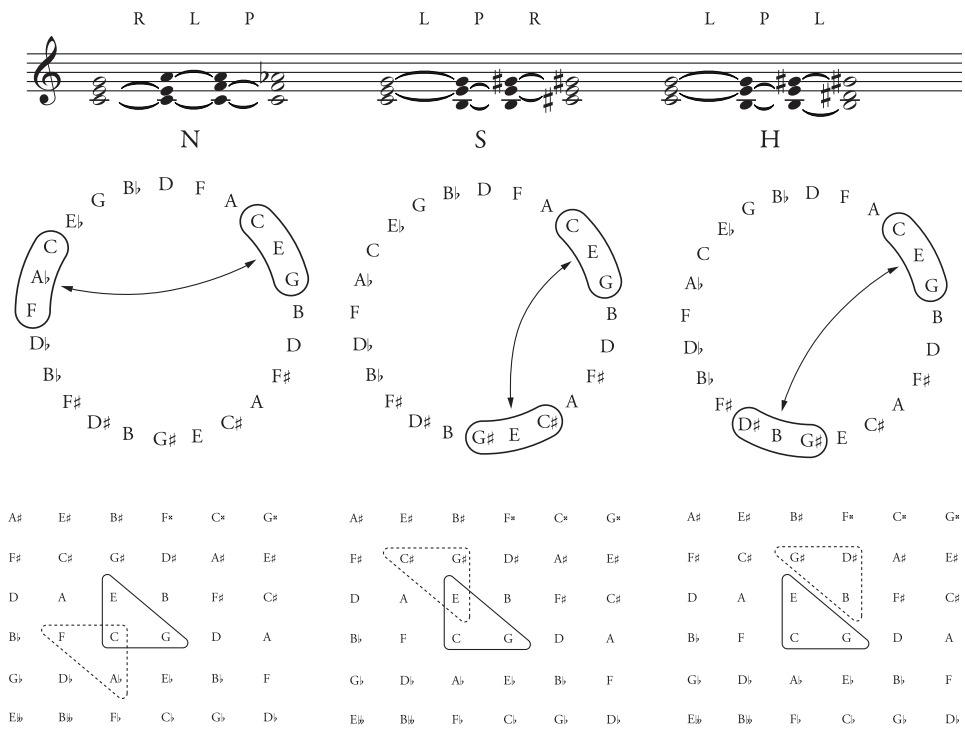
Example 2.22. Neo-Riemannian L, R, and P operations on the Harmonic Circle and the traditional Tonnetz.

connections between triads. Two of these compound operations retain only one common note between the constituent triads, while one alters all three tones of the first triad by a semitone.

First, applying R, L, and P successively to a major triad will yield its minor subdominant and to a minor triad its (major) dominant. The symbol for this operation is N, from the German word Nebenverwandt, used by 19th-century theorist Carl Friedrich Weitzmann (see Cohn 1998b, 290; 2000, 92, 98). A C major triad will transform into an F minor, retaining one common tone (C) and altering the other two by a semitone each.

As with operation N, applying L, P, and R successively to a triad will also yield a chord that retains one common tone and alters the two others by a semitone. When applied to a major triad, its third is preserved while the root and the fifth are altered; therefore, a C major triad will become a C♯ minor triad. The neo-Riemannian symbol for this operation is S, denoting SLIDE; the capitalization of the word harks to David Lewin's formulation of the operation in *Generalized Musical Intervals and Transformations* (Lewin 1987, 178).[14]

14. Likewise, in Lewin's initial formulation, the (neo-)Riemannian Leading-tone ex-



Example 2.23. Neo-Riemannian N, S, and H operations on the Harmonic Circle and the traditional Tonnetz.

Finally, applying L, P, and L successively will yield a triad's Hexatonic pole. Therefore, the label of this compound operation is H, or HEXPOLE. This relationship occurs in a hexatonic system (set class 6-20) when there are no common tones between the two triads (see Cohn 1996, 19). For instance, pitch class set [0,3,4,7,8,11] belongs to set class 6-20; its subsets [0,4,7] and [3,8,11] form C major and G♯ minor triads, respectively.

Example 2.23 shows operations N, S, and H on the Harmonic Circle and the traditional Tonnetz. As is the case with operation P, the distance between the constituent triads in operations N, S, and H is much greater than in operations L and R on the Harmonic Circle. Again, this fits the intuition that the constituent triads in each pair are farther apart from each other than is the case with the mediant motions of L and R—fewer common tones are retained in N and S and none in H. The visualization of these operations on the Tonnetz, on the other hand, do show the proximities of the harmonies under these operations—even the constituent harmonies of a Hexatonic

change L is denoted by LT, Relative major/minor R is denoted by REL, and Parallel major/minor P is denoted by PAR (Lewin 1987, 178). The more commonly used single-letter labels were introduced by Brian Hyer in his 1989 doctoral dissertation *Tonal Intuitions in Tristan und Isolde*.

pole are shown to be quite close to each other, even though they share no common tones.

These neo-Riemannian operations will be referred to in the analyses in the following chapters, whenever it seems beneficial and they illustrate harmonic motions more elegantly than the Harmonic Circle.[15] The same goes for the more advanced neo-Riemannian analytical tools, Cube Dance and Power Towers, explored below.

2.2.6.2 Cube Dance and Power Towers

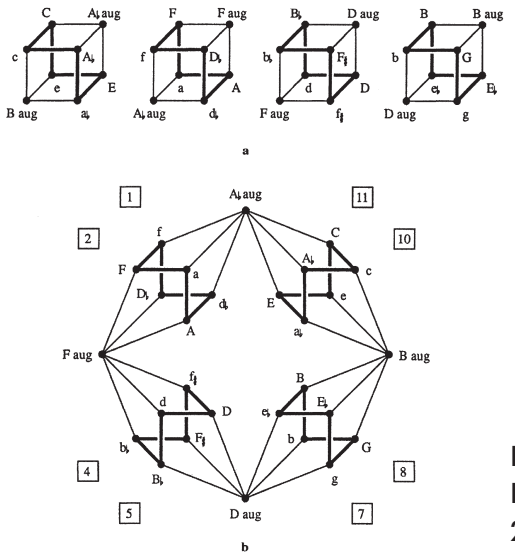
Jack Douthett and Peter Steinbach investigated triadic spaces in their 1998 article "Parsimonious Graphs: A Study in Parsimony, Contextual Transformations, and Modes of Limited Transposition." Of particular analytical interest to Rautavaara's music are two networks of chords that Douthett and Steinbach discuss. The first of them concerns hexatonic spaces and is called Cube Dance; the second concerns octatonic spaces and is called Power Towers.

Cube Dance arranges all four transpositions of the hexatonic collection (set class 6-20) into a network of triads. The networks illustrate the most parsimonious relationships of the chords that belong to each collection, as illustrated in the top line of Example 2.24.[16] For example, in the cube on the left, motion from C major to either E minor or C minor retains two pitch classes and alters one by a semitone. These are indicated by the bold lines that emanate to the south and southwest, respectively, from the C in the north. In terms of neo-Riemannian operations, C major to E minor is L (Leading tone exchange), wheras C major to C minor is P (Parallel major/minor), as discussed in connection to Example 2.22 above.

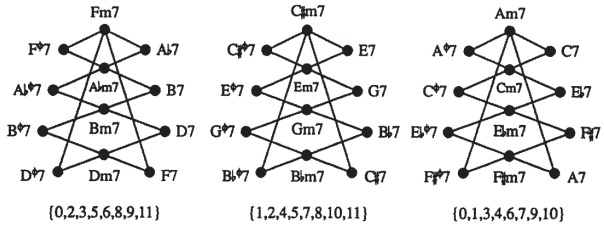
To relate the four hexatonic spaces to each other, Douthett and Steinbach introduce augmented triads as coupling chords. They allow modulating between the hexatonic spaces, since transposing merely one note of each augmented triad by a semitone will result in one of six triads; three of them belong to one hexatonic space and three to another. In Example 2.24, the top line arranges the four hexatonic spaces into a cubic layout, including the two coupling chords for each space, while the circular figure collates the coupling chords of each space between the pertinent spaces. Cube Dance makes it possible to track triadic motions where the roots of the chords move by major thirds, in addition to showing hexatonic poles within each of the cubes.

15. Other triadic relationships than the ones discussed in connection to Examples 2.22 and 2.23 can also be explored, even as L, R, P, N, S, and H are among the most commonly discussed. For example, the relationship M relates together a major triad and a minor triad whose root is a minor third higher than the root of the major triad, e.g., C major and E♭ minor triads. This relationship is discussed by Christopher Segall in his analyses of the music of Alfred Schnittke, along with the more familiar neo-Riemannian P and S (Segall 2017).

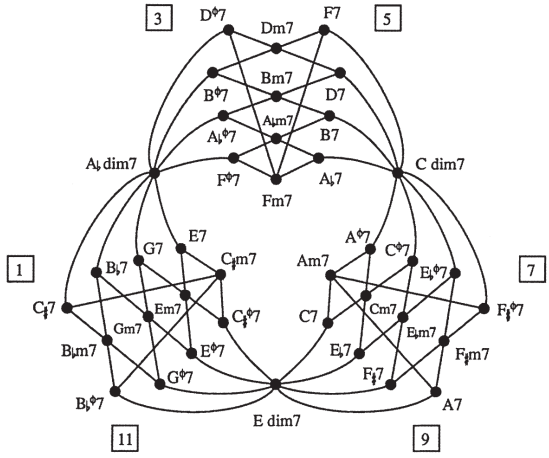
16. The example is reproduced from Douthett and Steinbach's discussion of Cube Dance.



Example 2.24. Cube Dance (From Douthett and Steinbach 1998, 254).



Example 2.25a. OctaTowers (From Douthett and Steinbach 1998, 246).



Example 2.25b. Power Towers (From Douthett and Steinbach 1998, 256).

According to Douthett and Steinbach (1998, 255), Power Towers is a seventh-chord analog of Cube Dance. The contents of each of the three transpositions of the octatonic collection can be arranged into seventh-chords that are either half-diminished, dominant, or minor seventh chords (ibid., 245). These can further be arranged to indicate parsimonious relationships in networks that the authors call OctaTowers. As with Cube Dance, coupling chords can be used to connect the three towers, and in this case the coupling chords are diminished seventh chords (ibid., 255). They allow modulating between the octatonic spaces in Power Towers in the same manner as augmented triads do in Cube Dance. Example 2.25a reproduces OctaTowers, and Example 2.25b reproduces Power Towers.

2.3 Twelve-Tone Composition

In 1975, Einojuhani Rautavaara wrote an essay entitled "Arnold Schönberg—romantikko harhateillä." ("Arnold Schoenberg—A Wandering Romantic"). Knowing full well the polemic potential of such a title, one that called an eminent modernist a romantic, he made an overview of Schoenberg's life and production, and proceeded to the following conclusion:

> And how can I call a romantic a man who has invented the strictest discipline that notes would follow since the days of the Netherlands composers?
>
> But let us see what happened. The followers of Schoenberg, those for whom Webern was his true prophet—those were the 'Darmstadtians': Stockhausen, Boulez, Nono, and finally Ligeti, Kagel, etc. In their hands the strict Moses-like law of Schoenberg eventually encompassed everything: rhythm, dynamics, timbre, density, even position in space, i.e., topicality. Eventually, nothing was free, subject to choice—and so came about a great release of tension in the 1960s, a typically schizophrenic reaction: when everything had been predetermined, now everything suddenly became undistinguished and free—gradually and logically sound masses and aleatoricism were arrived at. The musical universe had condensed into one red-hot core which then exploded. The explosion continues to this day, towards universes unknown.
>
> This is precisely what Schoenberg was looking for. Not for a law to encumber freedom, but for a law to attain it. (Rautavaara 1975b, 42–43.)[17]

17. "Ja miten voin kutsua romantikoksi miestä, joka keksi rautaisimman kurin, joita sävelet ovat totelleet sitten alankomaalaisten päivien?

Mutta katsokaamme mitä tapahtui. Schönbergin seuraajat, nuo joille Webern oli hänen oikea profeettansa – hehän olivat 'darmstadtilaiset': Stockhausen, Boulez, Nono, ja vihdoin Ligeti, Kagel jne. Heidän käsissään Schönbergin moosekselaisen ankara laki käsitti lopulta kaiken: rytmin, voimakkuuden, sävelvärit, tiheyden, jopa sijainnin tilassa eli topiikan. Mikään ei lopulta enää ollut vapaata, valittavissa – ja niin tapahtui suuri jännityksen purkautuminen 60-luvulla, tyypillisesti skitsofreeninen vastareaktio: kun kaikki oli ennaltamäärättyä, olikin kaikki yhtäkkiä yhdentekevää ja vapaata – asteittain ja loogillisesti oli jouduttu kenttämuotoiseen tekniikkaan ja aleatoriikkaan. Musiikin maailmankaikkeus oli puristunut yhdeksi

Significantly, Rautavaara made this statement at a time when he himself was reconsidering the twelve-tone technique as a part of his musical vocabulary: it was at this time, in 1975, that he wrote the opera *En dramatisk scen* (A Dramatic Scene), using the twelve-tone technique for the first time in nearly a decade, having discarded twelve-tone composing in the mid-sixties. But *En dramatisk scen* was a failure and it was never performed (see Hako 2000, 114–115, Sivuoja-Gunaratnam 1997, 110; Tiikkaja 2014, 359–363). It would take Rautavaara a further ten years before he again found a satisfactory way of writing twelve-tone music. But the fundamentals of his idiosyncratic way of writing twelve-tone music had been set nearly twenty years before this. It seems that he had found them for the most part already in the 1950s, but for various reasons had strayed from the path of writing that he later felt to be the most suitable for him. For this reason, he had to retrace his steps during the 1970s and 1980s to regain the compositional confidence of his first serial period.

It seems safe to assume that Rautavaara's statement from 1975 reflects his own aesthetic position at the time; indeed, the very process that he describes—from classic dodecaphony to integral serialism, and from integral serialism to sound masses, aleatoricism, etc.—this process was one that Rautavaara himself had gone through. In time, Rautavaara would return to twelve-tone composition and would do so by largely re-adopting those features of the method that he had used right from the start.

As has been documented by several writers (Kilpeläinen 1982, 87–88; Heiniö 1986a, 92–93; Aho 1988, 82–83; Sivuoja-Gunaratnam 1997, 34–38), Einojuhani Rautavaara learned the basic techniques of twelve-tone composition in the summer of 1957, when he travelled to Ascona, Switzerland, to study with Wladimir Vogel. His main motivation for the study of the twelve-tone technique was the perceived inability to write long, continuous stretches of music. In fact, the *Seven Preludes* for piano, composed in the previous summer in Tanglewood, were written out of frustration, as an antithesis, a rebellion against such demands (Rautavaara 1989, 164–165). Even though Rautavaara did not recall trying his hand at serialism prior to his studies in Switzerland (Sivuoja-Gunaratnam 1997, 34), one newly discovered piece from 1956–57 indicates that he did in fact begin to write twelve-tone music on his own in Helsinki, before he received any formal instruction in the technique from Vogel in Ascona (Tiikkaja 2014, 167–168). This piece, *Elegia*, is discussed in Chapter 4.1.

---

hehkuvaksi pisteeksi ja räjähti. Räjähdys jatkuu tänään, kohti tuntemattomia avaruuksia.

Sitä Schönberg etsikin. Ei lakia vapauden riistämiseksi, vaan lakia sen saavuttamiseksi."

2.3.1 Derived Series

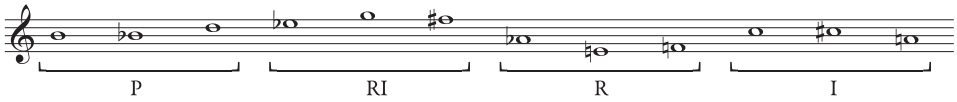
A derived series is one where the twelve-tone series is constructed from repetitions of a smaller unit, such as a trichord, tetrachord, or a hexachord. A series derived from a trichord will contain four iterations of the same trichord, three of the iterations being derived via basic twelve-tone operations from the remaining one which is deemed the prime iteration (Babbitt 2003a [1950], 14; 2003b [1955], 43–45). If a series is derived from a tetrachord, it will contain three iterations of the tetrachord; if from a hexachord, it will contain two iterations.

A twelve-tone series derived from a smaller collection will emphasize the interval content of the smaller collections, since it is repeated through the twelve-tone series. Therefore, the music written with a derived series will have a rather unified interval content through sheer repetition. For instance, if a trichord is used as a generator, the series will contain at least four instances of one interval class (the interval between the first two notes of the trichord) and four instances of another (the interval between the last two notes of the trichord). Other instances may arise between the trichords.

As an example, consider the series of Anton Webern's Concerto, op. 24 (Example 2.26). The series is derived from a trichord: the prime trichord is followed first by a retrograde inversion, then a retrograde, and finally, an inversion. The semitone (interval class 1) between the first two notes is repeated in each of the trichords; furthermore, it appears between the first and second trichords. The major third (interval class 4) between B♭ and D of the first trichord is also replicated in all remaining trichords but not between them.

A composer might want to use a derived series precisely for the uniformity of its interval content. The repetitiveness of the recurring kernels is bound to create unity via repetition; as is the case with the row in Webern's Concerto, the three-note kernels become motifs in their own right, creating a strong sense of recurrence as they appear in the foreground of the music. This is arguably the reason why Rautavaara, too, chose to use derived series so frequently, as will be seen in later chapters.

Another feature of derived rows is their propensity for creating combinatorial tone rows. Such rows feature hexachords that map either onto their complements or themselves under transposition, inversion, or both (Rahn 1980, 117–119). One of the reasons for using combinatorial rows is the possibility of creating aggregates, or full twelve-tone sets, from the hexachords when using two forms of the same series simultaneously (Babbitt 2003b [1955], 43–45; Rahn 1980, 118–119; Straus 2000 [1990], 187). Such use will tend to emphasize the chromaticism of the passage in question and de-emphasize any tonal implications that might otherwise arise. It can be argued that this was one of the main reasons why Arnold Schoenberg used combinatorial



Example 2.26. The series of Webern's Concerto, op. 24.

rows extensively—his aim, in the early stages of dodecaphony, was to shun any references to tonal harmony (Schoenberg 1984a [1923], 207; 1984c [1941], 219).

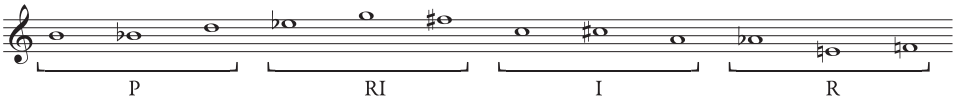
A second reason for using combinatorial series, as mentioned by Straus (2000 [1990], 189), is the possibility of creating twelve-tone areas which function in some ways like keys or key areas in tonal compositions. Tone rows that are combinatorially related have the same hexachord content (ibid.) so they can be used to create a sense of similarity in the ears of the listener, or, of contrast: "because of combinatoriality, Schoenberg and other twelve-tone composers are able to 'modulate' from area to area, creating a sense of harmonic motion at the highest level of structure" (ibid.).

This second reason for using combinatorial rows is quite pertinent in Rautavaara's music, regardless of whether or not he was aware of Schoenberg's combinatoriality as such. In his tonally-inflected serial compositions, Rautavaara was of course not interested in avoiding triads or other tonal devices, but he often chose rows that create areas when used together; such areas could then be pitted against each other, for instance, for contrast. The aim for Schoenberg was to create aggregates, whereas for Rautavaara it was to create centricity and repetition; combinatoriality can accommodate both of these aims.

2.3.2 Symmetrical Series

Given his lifelong interest in symmetry, it did not take long for Rautavaara to start employing symmetrical principles to his twelve-tone writing when he was studying the technique at the end of the 1950s. Symmetrical twelve-tone series here refer to ordered twelve-tone sets, not to unordered hexachords or other sets where transpositional or inversional symmetry can of course occur (cf. Straus 2000 [1990], 74, 78–79; Rahn 1980, 90–92).

A twelve-tone series exhibits symmetry if it has an identical counterpart among the 48 available series-forms that are derived through transposition or retrograde (or both), inversion, or retrograde inversion. Of course, using combinatorial hexachords will yield identical (or complementary) hexachords, but without regard to ordering. In ordered symmetrical sets, the hexachords will be combinatorially related; namely the initial hexachord maps onto its complement or on itself (in which case it will need to be transposed) to create an aggregate. However, construction based on combinatorial hexachords is not enough to make the set symmetrical. Consider, for instance, the



Example 2.27. The series of Webern's Concerto with the two last trichords interchanged.

series for Webern's Concerto, op. 24 (see Example 2.26 above). The two hexachords belong to set class 6-20 (014589), one of only six all-combinatorial hexachords (see Straus 2000 [1990], 186). But still the series is not symmetrical, because of the way the pitch classes are ordered. To make this particular twelve-tone series symmetrical, one would only have to interchange the two trichords of the latter hexachord; then one would have a retrograde-symmetrical twelve-tone series (Example 2.27).

Using a symmetrical series will tend to enhance the unity of music written with it. This is because the number of available series forms—as derived by the standard operations of transposition, retrograde, inversion, and retrograde inversion—are halved from the customary 48 to 24. Therefore, there are fewer distinct series-forms to choose from. In effect, any tone row in a 12x12 matrix will have an identical counterpart somewhere in the matrix, thus halving the amount of distinct series-forms available to a composer. If the composer uses the rows consistently, there will be more repetitions of the interval structure of the series at the same pitch classes than there would be if the composer used a non-symmetrical series. The effect will be further enhanced if the series in question is a derived series and thus has a uniform, highly repetitive interval structure. This is often the case in Rautavaara's twelve-tone writing.

2.3.3 Allusions to Tonality

When creating the twelve-tone system, Schoenberg aimed to displace the then-dominant tonal system of music by avoiding any allusions to harmonies of the tonal system (Schoenberg 1984a [1923], 207; 1984c [1941], 219). He sought to avoid "consonances (major and minor thirds) and also the simpler dissonances (diminished triads and seventh chords)—in fact almost everything that used to make up the ebb and flow of harmony" (Schoenberg 1984a [1923], 207), so that harmonies associated with tonal passages would not dominate the listener's ear. The same went for octave doublings: "To double is to emphasize, and an emphasized tone could be interpreted as a root, or even as a tonic; the consequences of such an interpretation must be avoided. Even a slight reminiscence of the former tonal harmony would be disturbing, because it would create false expectations of consequences and continuations" (Schoenberg 1984c [1941], 219).

These formulations have been echoed in later literature as well, for instance in René Leibowitz's *Schoenberg and His School* (1949, 91–92). However, various writers have detected references to tonality even in one of Schoenberg's earliest twelve-tone pieces, the Suite for Piano, op. 25, composed in 1921–23 (see Boss 2014, 72–74, 82–84). Tonal references are also to be found later in his music. It was quite early on, too, that Schoenberg himself discussed the possibility of using atonal and tonal means in tandem:

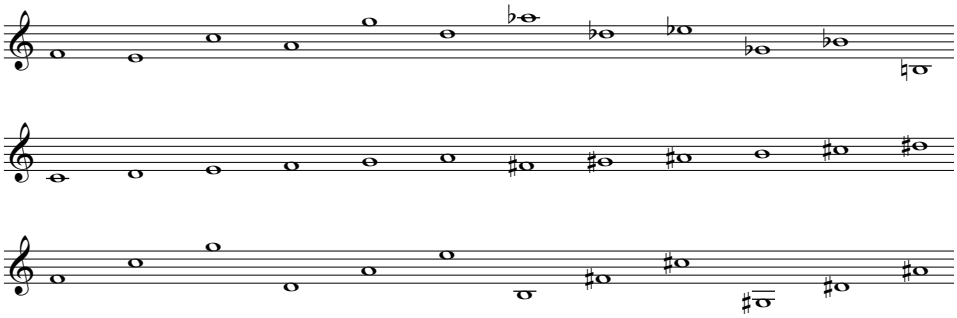
> A later time will perhaps (!) be allowed to use both kinds of resources in the same way, one alongside the other, just as recently a mixed style, partly homophonic, partly polyphonic, permitted these two principles of composition (which in fact differed far more) to mix—although it would be stretching a point to call it a happy mixture. (Schoenberg 1984a [1923], 207.)

Schoenberg's pupil Alban Berg was among the first to attempt fusing together tonal features with twelve-tone writing. Only the last five of Berg's compositions are serial, beginning with *Schliesse mir die Augen beide* (1925) and ending with the violin concerto and *Lulu* (1935). The sets chosen by Berg were quite different from those used by Schoenberg. Berg included references to tonal harmonies in his sets and used them in a way that emphasized those references (Jarman 1979, 81).

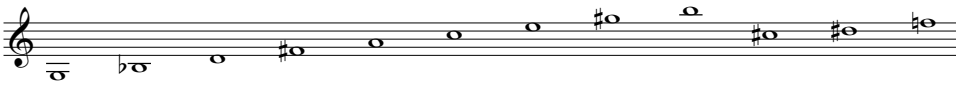
Among Berg's major twelve-tone compositions is the *Lyric Suite* (1925–26), where he uses different orderings of the same two hexachords to construct the series (ibid., 82–83). Influentially for Rautavaara's music, these two hexachords contain "white" and "black" notes, that is: natural notes for the "white" hexachord and chromatic ones for the "black" hexachord. See Example 2.28 for the three series used in the first movement of the *Lyric Suite* (from Jarman 1979, 81–82. See also Headlam 1996, 247–283 for a detailed discussion of the *Lyric Suite*). The second row reorders the hexachords into a stepwise motion, moving for the most part in whole tones and semitones (the series of Berg's *Der Wein* is similarly constructed; see Jarman 1979, 101). The third one has the notes of the hexachords in a circle-of-fifths motion.

The same two hexachords are used for the basic series of Berg's opera *Lulu* (ibid., 85), albeit in a different ordering than in the sets of the *Lyric Suite*; they also divide the chromatic space into "white" and "black" hexachords.

Surely the most famous of Berg's twelve-tone works is the Violin Concerto, since it is in that piece that Berg's fusion of twelve-tone writing and tonal implications is the most apparent. The series for the Violin Concerto (Example 2.29) contains several triads which overlap each other. The initial G minor triad (notes 1–3) overlaps with



Example 2.28. Three rows used in the first movement of the Lyric Suite.



Example 2.29. The series of Berg's Violin Concerto.

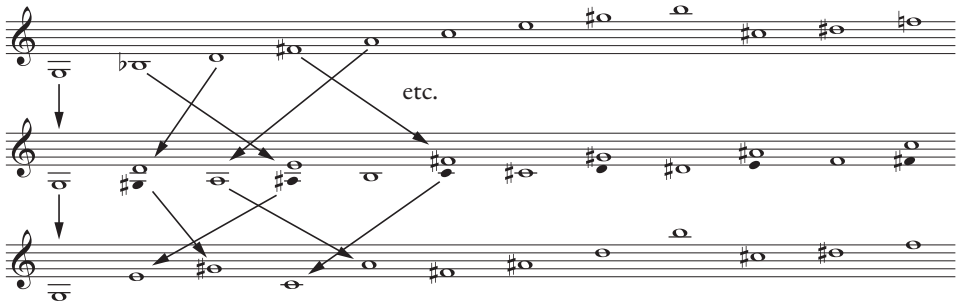
a D major triad on notes 3–5, which in turn overlaps with an A minor triad on notes 5–7. An E major triad follows on notes 7–9, and only the final four notes do not form a triad, as they form a rising whole-tone tetrachord on notes 9–12.

Twelve-tone composers after Schoenberg have responded varyingly to his initial resistance to tonal references. Composers have often treated the possibility of referring to tonality differently in different compositions. For example, Ernst Křenek's a cappella chorus composition *Lamentatio Jeremiae Prophetae* (1942) has much more consonant twelve-tone sonorities than does his integral serialist *Sestina* (1957) for voice and instrumental ensemble. Joseph N. Straus has even argued that at least in American twelve-tone music,

> [T]onal effects and references are part of the serial enterprise from the very beginning. Indeed, it would be more accurate to say that twelve-tone serialism, as practiced by Schoenberg and by virtually every American twelve-tone composer, is a way of creating and shaping tonal references – it is about evoking and channeling tonality, not about repressing it. (Straus 2009, 185.)

2.3.4 Fifth Series (Quintenreihe)

Rautavaara learned from Vogel the method of deriving a *Quintenreihe*, or fifth series (see Sivuoja-Gunaratnam 1997, 35–37). By using the Quintenreihe, a twelve-tone composer can utilize a series-form that is related to the original series but will still yield contrast to the texture. The Quintenreihe does this by altering the interval structure of the original series; the deriving of the fifth series leaves six of the twelve tones of the original series untouched, while interchanging the positions of those three remaining pairs of tones that are at a distance of a tritone from each other.



Example 2.30. The derivation of the fifth series of the series of Berg's Violin concerto.

In essence, the method of deriving a Quintenreihe is a multiplicative operation, otherwise known as an M7 operation (Babbitt 2003c [1974], 332; 2003d [1976], 351, 363–364; Rahn 1980, 53–55). The pitch classes of the original set are multiplied by the number of semitones in a perfect fifth (hence the name Quintenreihe or fifth series) in a modulo 12 space. By using the inverse of a fifth in an M5 operation, one gets a Quartenreihe, or a fourth series. This can also be obtained by simply inverting the fifth series (Sivuoja-Gunaratnam 1997, 36).

Another way of conceptualizing the derivation of a fifth series is by using an auxiliary row where a chromatic scale and the circle of fifths are superimposed; this amounts to the same thing as multiplying the set classes in a modulo 12 space. To obtain a fourth series one would use an auxiliary row made up of a chromatic scale and a circle of fourths. Example 2.30 illustrates the derivation of a fifth series for the series of Berg's violin concerto. The interval class content of a series will remain the same under the circle-of-fifths transformation, as comparing the original series and the fifth series will show. In this particular case, the original series contains exclusively interval classes 2, 3, and 4; major seconds (interval class 2) and major thirds (interval class 4) will remain unaltered, while minor thirds (interval class 3) will be inverted to major sixths.[18]

The circle-of-fifths transformation immediately became a standard technique for Rautavaara's twelve-tone writing after he learned it from Vogel in 1957. This is because Rautavaara found it to be a useful tool for creating contrasts in the tone material, but at the same time without straying very far from the original series.

18. This is because multiplying interval classes 2, 3, and 4 by 7 will yield 14, 21, and 28, respectively; in a modulo 12 space, they will cancel to 2, 9, and 4. In general, even-numbered interval classes remain unchanged under the M7 operation, whereas odd-numbered interval classes are altered by a tritone—in effect, intervals 1 and 7 are interchanged, as are 3 and 9, along with 5 and 11.

> I found the fifth series fascinating also theoretically, because there was something mystic there in the derivation… And I also enjoyed the fact that it was somewhat obscure… From the same starting point [prime form] a new material is conceived, a relative, the application of which is ethically correct and legitimate. It is derived from the same series, but the music that it generates is entirely different. For instance, if the first movement is generated from the original series, then applying the fifth series to the second movement or to another section, one can obtain music that is entirely different, and the character change can also be perceived by the ear. (Rautavaara in 1991, quoted in Sivuoja-Gunaratnam 1997, 36–37.)

2.4 Synthetic Modes

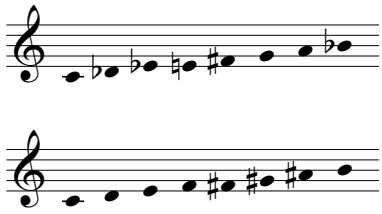
Rautavaara employed synthetic modes in his music throughout his career. He was particularly fond of two of Olivier Messiaen's "modes of limited transposition" (Messiaen 1956 [1944]; 1966 [1944]): the second, in which semitones and whole tones alternate, and the sixth, in which pairs of semitones and pairs of whole tones alternate (Sivuoja-Gunaratnam 1997, 110, Heiniö 1986b, 138–140). See Example 2.31.

Rautavaara would typically use these synthetic modes for arabesques and other embellishments, where there are no clear-cut rhythmic or thematic shapes, but often also for general pitch organization. This is particularly true of Messiaen's second mode, or the octatonic scale. See, for instance, the beginning of the second movement of Rautavaara's Sonata for solo cello (Example 2.32a). The movement begins with an octatonic motive, in measures 1–2, that is immediately repeated in measures 3–4 as an inversion. The second motive, in measure 5, is not octatonic, but is constructed symmetrically around middle D. In measure 6 this motive is inverted. Measures 7–8 return to octatonic writing, with a four-note motif (E-E♭-D♭-C) repeated in prime and inverted forms, and measures 9–10 contain an inversion of the first motive.

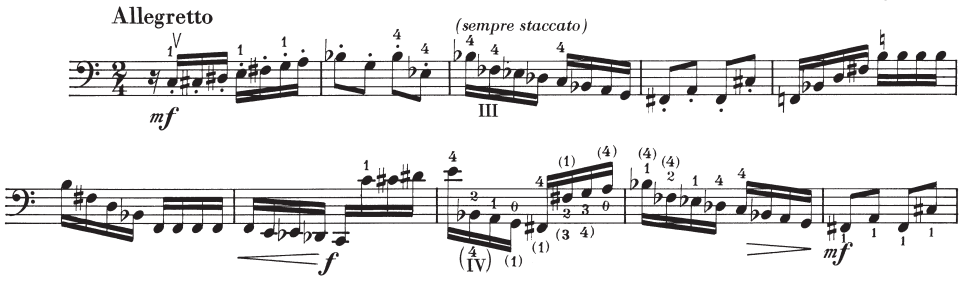
See Piano Sonata No. 2, first movement, m. 78–81, for an example of embellishment use of one of the modes; here the pianist's right hand plays fast arabesques of Messiaen's second mode to embellish the theme in the left hand (Example 2.32b). In the Symphony No. 5, m. 217–218, arabesques in the second violins play Messiaen's sixth mode while accompanying the theme in the first violins, flutes, and piccolo (Example 2.32c).[19]

When the notes of these two modes are viewed on the Harmonic Circle, they can be seen to lay on it symmetrically. Because of its uniform interval structure, Messiaen's second mode can be visualized in several ways. In one, the mode forms four

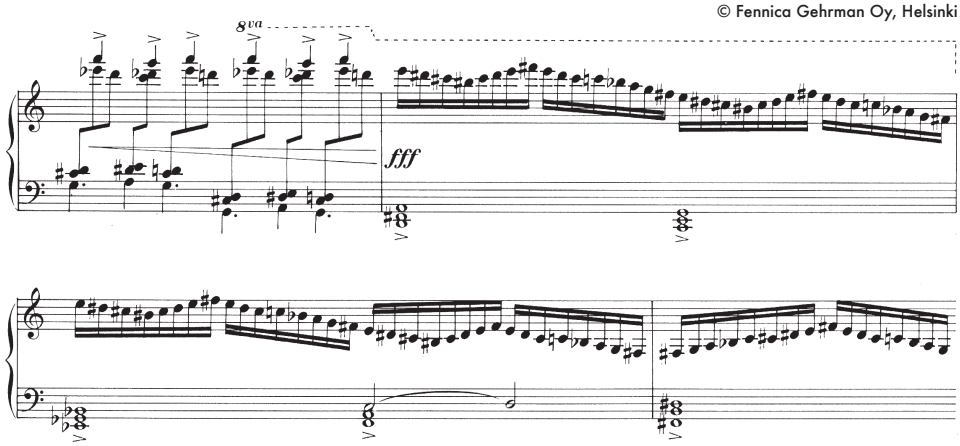
19. Piano Sonata No. 2 is discussed in more detail in Chapter 6.3.3, Symphony No. 5 in Chapter 7.3.



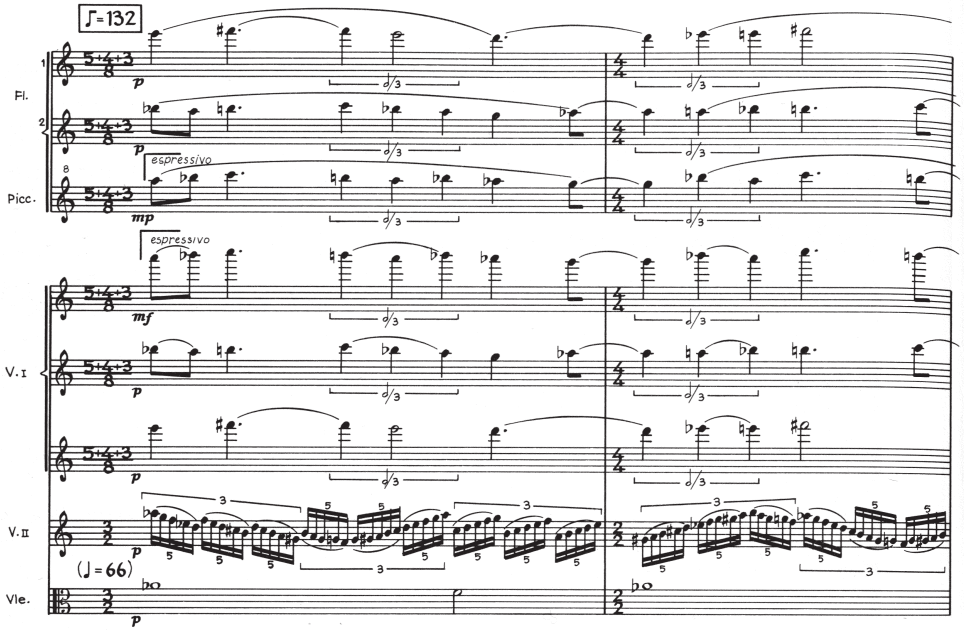
Example 2.31. Olivier Messiaen's second and sixth synthetic modes, featuring recurring semitone patterns of 1-2 and 2-2-1-1, respectively.



Example 2.32a. Sonata for solo cello, 2nd movement, mm. 1–10.



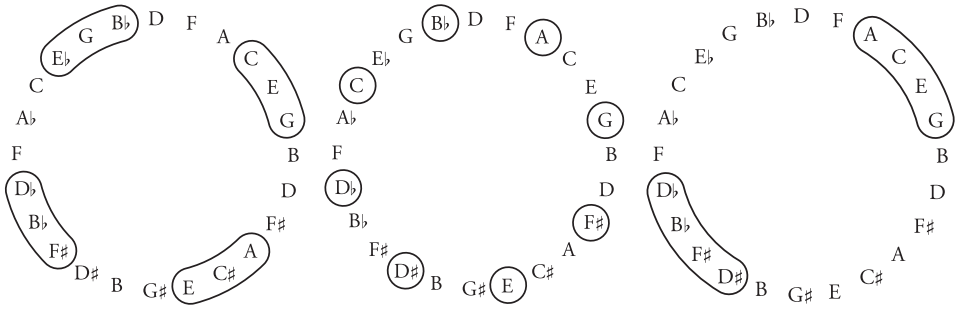
Example 2.32b. Piano Sonata No. 2, 1st movement, mm. 77–80.



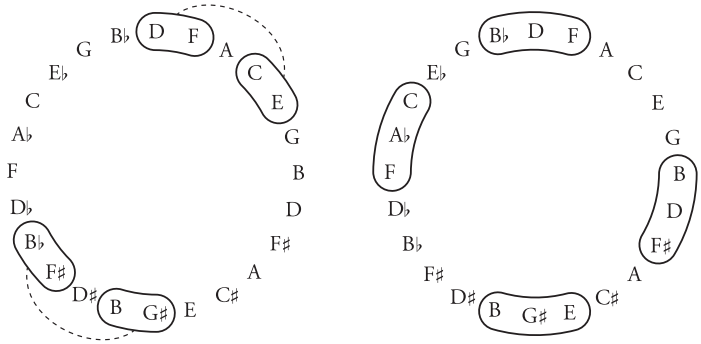
Example 2.32c. Symphony No. 5, mm. 217–218.

distinct three-note segments on the Circle; four triads whose roots create a diminished seventh chord that divide the octave symmetrically (Example 2.33a). The four triads create a tonal space whose harmonic tension is notably different from the V-I dynamic of tonal cadences. In an alternative visualization of Messiaen's second mode, we can start on the C in the northwestern quadrant and move counter-clockwise, always skipping two steps on the Circle (Example 2.33b). And yet another visualization of the same mode situates the notes on diametrically opposite four-note segments of the circle, highlighting that the mode contains four pairs of tritones (Example 2.33c).

Similarly, the two tetrachords of Messiaen's sixth mode are found on opposite sides of the Harmonic Circle, at the distance of a tritone (Example 2.33d). When this mode is used as a scale, as Rautavaara indeed often does (Example 2.32c), the notes can be visualized as constantly skipping to opposite sides of the Harmonic Circle, creating constant tritone tension. For an alternative way of visualizing Messiaen's sixth mode, we can form four distinct triads: F minor in the west, B♭ major in the north, B minor in the east, and E major in the south (Example 2.33e). Each of the triads has a pair on the opposite side of the Circle, at the distance of a tritone.



Example 2.33a–c. Alternative ways of visualizing Messiaen's second mode on the Harmonic Circle.



Example 2.33d–e. Alternative ways of visualizing Messiaen's sixth mode on the Harmonic Circle.

2.5 On Auto-Quotations in Rautavaara's Oeuvre

One of the many intriguing facets of Rautavaara's music is the composer's inclination to use his previous pieces in composing new ones. This compositional habit lasted virtually throughout his career, and some of these self-borrowings were reported by Anne Sivuoja-Gunaratnam in her essay "'Narcissus musicus' or an Intertextual Perspective on the Oeuvre of Einojuhani Rautavaara" (1999).[20] My own article "Einojuhani Rautavaara—Postmodern Intertextualist or Supermodern Intratextualist? On auto-quotations in Rautavaara's Oeuvre" supplies further details on works written up to 2004. The most details are found in the list of works in *Komponisten der Gegenwart*, originally compiled by Kalevi Aho in 1997 and updated by me in 2017 (Aho & Tiikkaja 2017 [1997]).

There are at least two terms that anyone who wishes to deal with cross-references in Rautavaara's music must clarify, which are *postmodernism* and *intertextuality*. The term intertextuality was coined by Julia Kristeva in the 1960s, and for her, the term refers to subconscious textual processes, or transpositions between sign systems: "The

20. See also Sivuoja-Gunaratnam 1992; 1997, 228–241.

term inter-textuality denotes this transposition of one (or several) sign system(s) in to another; but since this term has often been understood in the banal sense of 'study of sources,' we prefer the term transposition [...]" (Kristeva 1984, 59–60). Since Kristeva's initial formulations, however, the term has usually been used in connection with more explicit similarities between texts, such as direct quotations, allusions, subtexts, etc. (see e.g., Orr 2003).[21] Intertextuality, in this sense, "encompasses the entire range of relationships between texts, from direct borrowing, reworking or quotation to shared styles, conventions or language" (Burkholder 2001b). In relation to intertextuality, borrowing can thus be seen as a narrower phenomenon, which indicates the use in one work of music of one or more elements taken from another (cf. ibid.). Given its flexibility, the term intertextuality has been used in various ways in music analysis; for example, Robert Hatten (1985; 1994, 196–201, 291), Robert Samuels (1995), and Alastair Williams (2001, 35–36).

On the other hand, postmodernism is a more difficult term. This difficulty owes much to its status as a popular catchword in the 1980s. The problems of the term were noted as follows by Umberto Eco in his *Postscript to The Name of the Rose*: "Unfortunately, 'postmodern' is a term bon tout à faire. I have the impression that it is applied today to anything the user of the term happens to like" (Eco 1994 [1983], 530). Lawrence Kramer, in his *Classical Music and Postmodern Knowledge* (1995, 5), also starts with a caveat: "[T]he term postmodernism is something of a catchall and susceptible to mere modishness. But it is also, for better or worse, at the center of a momentous intellectual debate."

In music, postmodernist attitudes can be discerned in compositions as such, in methods of analysis, and sometimes in both. Postmodern(ist) music analysis has often sought new interpretations of canonical masterpieces of music. It has also appraised music that was previously excluded from the canon (see e.g., L. Kramer 1995; Scott 1998; Monelle 2000; McClary 2000; and Williams 2001). As an analytical method, Susanna Välimäki's notion of Postmodern music analysis embraces various disciplines and does not separate the cultural meanings of a given piece of music from the music itself (Välimäki 2005, 105–106). By contrast, the following discussion takes postmodernism mainly as a compositional feature (cf. Danuser 1984; Heiniö 1988; J. D. Kramer 2002; and Lochhead & Auner [eds.] 2002)—that is, as something more in-

21. This is of course a minimally brief definition of a subject that has given rise to voluminous literature. Kristeva's initial discussion of intertextuality is in the essay "Le mot, le dialogue et le roman," reprinted in *Desire in Language* (1980, 64–91, as "Word, Dialogue, and Novel"). A more recent overview and critical presentation of Kristeva's and others' work and views on intertextuality is provided, for example, in Mary Orr's *Intertextuality: Debates and Contexts* (2003: see esp. 20–59).

trinsic to the compositions themselves (as opposed to interpretation), since the main issue here is the multitude of cross-references in Rautavaara's music.

To attempt a concise definition, postmodernism in music, either in composition or analysis, can be seen as a reaction to modernist tendencies[22] which emerged in the 1950s with the Darmstadt serialists and the avant-garde in general (Heiniö 1988, 7–9; Pasler 2001). It questions the "grand narratives" (or "metanarratives") of modernist discourse, by rejecting the idea of a unified art or science, the idea that there is only one common goal and one way to attain it. As Jean-François Lyotard defines it, postmodernism is "incredulity toward metanarratives" (1984, xxiv). Jonathan D. Kramer gives a 16-point list of characteristic attributes of postmodern music. For example, according to the list, postmodern music "is, on some level and in some way, ironic; [...] questions the mutual exclusivity of elitist and populist values; […] embraces contradictions; […] encompasses pluralism and eclecticism ... " (J. D. Kramer 2002, 16–17). But he warns against "using these sixteen traits as a checklist to help identify a given composition as postmodern or not: postmodern music is not a neat category with rigid boundaries" (ibid.).

As Jann Pasler (2001, 213) puts it, "[p]ostmodernism is [...] used to describe a style that throws into question certain assumptions about Modernism, its social basis and its objectives. These include faith in progress, absolute truth, emphasis on form and genre and the renunciation of or alienation from an explicit social function for art." The somewhat pejorative notion, in this context, of "absolute truth" in music refers to the modernists' quest for newness and singularity in compositions. It was this modernist attitude that postmodernist composers sought to obliterate, for example, by quoting older pieces in their compositions. Because of the terminological difficulties concerning postmodernism, Mikko Heiniö (1988, 7, 13–15) prefers to use the term reflexivity. He seems to equate reflexivity with "postmodernism" but prefers it over the latter because the "-ism" might suggest a movement with a clearly defined programme, which he considers postmodernism/reflexivity not to have (ibid.).[23] On a compositional-aesthetic level, postmodernist music often incorporates quotations of earlier compositions, generally of other composers. One of the most famous postmodernist compositions is Luciano Berio's *Symphony* (1968–1969), which extensively

22. However, Charles Jencks, for instance, claims that "Post-Modernism is a stage of growth, not an anti-Modern reaction" (1996, 477).

23. Lawrence Kramer acknowledges the same difficulty: "The characterization [of the conceptual and rhetorical world of postmodernism] will try to encourage, by envisioning, a generalized climate of postmodernist thought that is at best still nascent. At the same time, it will fight shy of promoting that contradiction in terms, an official or normative or definitive postmodernism" (1995, 3). It is somewhat ironic that the book in which this statement appears has become one of the definitive texts on musical postmodernism.

quotes Mahler's Second Symphony and superimposes over it quotations from more than 100 other works from the Baroque period onwards (Burkholder 2001a, 31–32).

However, not even excessive use of quotation—not even when self-referential—guarantees that a composition is postmodernist, for quotation has formed an essential compositional device in the history of western art music at least since the baroque period. Heiniö (1988, 9) has also noted another kind of reaction to modernism; at the same time that postmodernism began, a form of traditionalism emerged that was characterized by tonality and Romantic expressiveness. Even this latter development has been dubbed "postmodern"—after all, it seems to refer to historical musical traditions with triadic harmonies and "the emancipation of the consonance" (ibid. 11). Though he does not explicitly say so, Heiniö seems to disagree with those who would label the re-emergence of tonal traditions or Minimalism or the "new simplicity" as postmodern.[24]

Although Rautavaara has produced works that can, at least in Heiniö's opinion (1988, 58–70), be characterized as postmodernist, he has not extensively composed music that quotes directly from other composers. Rather, he has focused on quoting himself. Heiniö's (ibid., 58) assertion that Rautavaara is an archetypal postmodernist is plausible in light of the fact that Rautavaara has composed in a variety of techniques and idioms and also has used direct quotations from other composers; for example, various national anthems in the *True & False Unicorn* (Heiniö 1984, 64) or the decidedly Bach-like textures and even a direct quotation of Bach in the Sonata for Solo Cello.[25]

However, if Pasler's definition (above) holds true, that postmodernism rejects the "renunciation of or alienation from an explicit social function for art" inherent to Modernism, then Rautavaara clearly is not a postmodernist. Consider the following assertion by the composer:

> …I have never, unlike many of my colleagues whom I greatly respect, sought to improve the world through my music, or to depict its misery or injustice, or to preach ecology or any other kind of idealism. I cannot use my music for these noble aims, because all in all I do not "use music"—music uses me, in order to be born. (Rautavaara 2002b, 20–21; cf. Rautavaara 1998b, 113.)

24. This division is also noted by Jonathan D. Kramer (2002, 13), who distinguishes between postmodernism and antimodernism. In contrast, Hermann Danuser (1984, 392–393) classifies both the neoromanticism and minimalism of the 1970s as postmodern.

25. In fact, if the Third Symphony can be dubbed Brucknerian on the grounds of orchestration, idiom and the like, then the Sonata for Solo Cello may be called "Bachian" for the same reasons. The obvious references are the six suites for solo cello by J. S. Bach. Likewise, *Anadyomene* could be called "Debussyan" because of its textural affinities with Debussy's *Nuages*.

2.5.1 Auto-Quotations and "the Now"

> Why does Rautavaara engage in the practice of reworking and recycling elements of [his] own musical production? There might be a practical though partial explanation to this: by reusing old material, one might be able to write even larger works at a faster pace. […] For the listener, Rautavaara's auto-allusions cause occasionally baffling déjà-vu experiences, when a supposedly unknown piece begins to radiate an odd sense of familiarity. It is obvious that Rautavaara enjoys specifically quoting himself, and thus his musical behaviour could be described as musical narcissism. ... His reworking of his own material could be viewed from another perspective, also, for instance from that of a musical "bricoleur" [a person who makes artifacts using materials in his immediate surroundings]. (Sivuoja-Gunaratnam 1999, 17.)

Sivuoja-Gunaratnam's term auto-allusion seems to me to be a bit off the mark, since the word "allusion" refers to indirect reference. Such is certainly not the case when Rautavaara reuses sections of past compositions without changing them in any essential way—and in this context such essential changes would be changes in tone organization or rhythm. Orchestration differences do not amount to profound differences in this context. When using the word "allusion" (instead of "quotation" or "citation") in reference to Rautavaara, it seems more appropriate to reserve it for such cases when the reference is indeed indirect. Here one might think of allusions to Shostakovich's Sixth Symphony and Prokofiev's Fifth Symphony in Rautavaara's First Symphony (Aho 1988, 77). Several writers have detected allusions to Stravinsky's *Rite of Spring*: Aho has observed them in Rautavaara's Second Symphony (ibid. 82), Heiniö in *Angels and Visitations* (1988, 67–68), and Sivuoja-Gunaratnam in the "Dies irae" of *A Requiem in Our Time* (1999, 9). In *Angels and Visitations*, the allusion comes via Rautavaara's (auto)quotation of the same passage of his Second Symphony that Aho mentions. In sum, when Rautavaara reuses parts of his earlier compositions without changing them in any essential way, then the terms "auto-citation" or "auto-quotation" seem more appropriate.

It is safe to assume that Sivuoja-Gunaratnam is correct about the practical usage of auto-quotations; the use of previously written material undoubtedly hastens the composition process. Many of Rautavaara's self-referential pieces are commissioned works, which can be completed faster by the insertion of previously used material, rather than by writing something new. The sooner one fulfills a commission, the faster and more often one gets paid. Moreover, the material has been "tested" in earlier pieces and thus has some confirmation of being worthy. On the ethical side, however, such a practice seems suspect—those who commissioned the work, as well as the audience, might well feel betrayed by not hearing the new music that they probably

expected. The argument that self-borrowing merely helps get the job done faster is somewhat weakened by the fact that aesthetic ruptures almost never occur between the auto-quotations and their new surroundings (i.e., the newer work). A sense of collage almost never accompanies Rautavaara's auto-quotations; rather, he appears to take great care in making the quotation seem "at home" in its new environment—a practice that obviously takes much time and sensitivity. Adding to the tightness of "fit" of the re-used material is the fact that, in the new score, the composer never indicates the origins of the citations. Rautavaara does not seek to hide the origins, but neither does he emphasize them.

Rautavaara's motive for reusing his music might have had to do with seeking longevity. This is a centuries-old goal associated with writing musical works, as Carl Dahlhaus writes:

> Ever since its earliest, tentative formulation in the sixteenth century, the concept of a musical work has been linked with the idea of survival or even of timelessness. That a work does not end with the moment of its creation, but survives for decades or centuries without ageing, is seen as a guarantee of aesthetic quality[.] (Dahlhaus 1987 [1969], 211.)

Thus, Rautavaara's tendency to quote himself might be regarded as an attempt to make his musical ideas live longer than individual pieces customarily do—that is, if one accepts the rather traditional view that Dahlhaus mentions.[26] Dahlhaus (ibid.) goes on to note that avant-gardists are a bit suspicious of the traditional concept of a work; rather, they consider work in progress a more appropriate way of categorizing musical units. For Dahlhaus, this in no way violates the nature of music, but is rather a return to an aesthetic norm that preceded the Romantic period: because music is inseparably bound to the passage of time, it is an art form "whose effect depends on energy," as opposed to forms of art "that supply works"[27] (ibid., 212–213). Moreover, in modern times many composers and other musicians have made strenuous attempts to break away from the tradition of objectification:

> The history of music, at least in Europe, has been a history of progressive objectification. To be sure, its concrete character shows itself less in direct than in indirect form, that is, not while the music is being played but only when the listener, at the end of a movement or section of a movement, turns back to

26. For example, music created to live beyond the time of its author is part of Listenius's definition of "the musical work" (opus) in his *Musica poetica* of 1533, and this notion became commonplace after that time. (I am indebted to Richard Littlefield for reminding me about Listenius's then-novel view.)

27. Dahlhaus quotes Herder in making this distinction.

> what has just passed and recalls it as a self-contained whole. To the extent that music is form it attains its essential character, to put it paradoxically, precisely at the moment when it is past. Retained in the mind, it recedes to a position removed from the listener which it did not occupy when directly present as a process. It becomes an object. (Dahlhaus 1987 [1969], 213.)

By using aleatoric, improvisational, and other devices, the avant-garde sought to obliterate the Romantic category of a work of art and to return to music as a work in progress—to make it more immediately understandable. Rautavaara, on the other hand, mostly used closed forms, even though aleatoric devices do appear in some of his works, such as *Arabescata*, *Regular Sets of Elements in a Semi-regular Situation* and the Fifth Symphony. At the same time, he sought to make his music immediately accessible through the use of auto-quotations. They make it possible for the listener to understand the piece, at least on some level, even before it is over. Rautavaara's auto-quotations seem to serve a double purpose: to make works live longer, and at the same time to emphasize their form in "the now." The constant re-emergence of themes and motives creates œuvre-wide symmetry, where salient elements of Rautavaara's music are repeated as if they were recurring motives on different regions of a mandala diagram.

2.5.2 A Typology of Rautavaara's Auto-Quotations

The following categories are an attempt to differentiate between different strategies that Rautavaara uses in recycling or recomposing earlier pieces:

> 1. Different versions of the same composition, all of them having virtually the same name. Such pieces include the first two symphonies, *Ballad for Harp and Strings* (also known as *Ballad for Harp and String Quintet*), *Angel of Dusk* (versions for orchestra and chamber ensemble exist), *Pelimannit* (original for piano, later orchestrated for strings), *The Myth of Sampo* (original version from 1974 for choir and chamber ensemble, revised version from 1983 for male choir and electronics), and so on.
>
> 2. Re-use of whole compositions or entire movements of larger compositions. For example, the third movement of the Seventh Symphony is an orchestrated version of *Notturno*; another instance is "Jacob Könni" of *Pelimannit*, orchestrated for brass band as "Credo et dubito" in *A Requiem in Our Time*. (See also Sivuoja-Gunaratnam 1999, 11.)

3. Smaller sections of previous pieces resurface in later compositions yet appear more inconspicuously than in the first two categories. Such instances are referred to in Sivuoja-Gunaratnam's (1999, 12–13) essay: the Fourth String Quartet reuses sections of *An Ugrian Dialogue* and *Die Liebenden*; the Second Symphony reuses the Seven Preludes for Piano; the Fifth and Sixth Symphonies draw material from the operas *Thomas* and *Vincent*, respectively. Sivuoja-Gunaratnam also mentions the connection between *Notturno* and the Seventh Symphony.

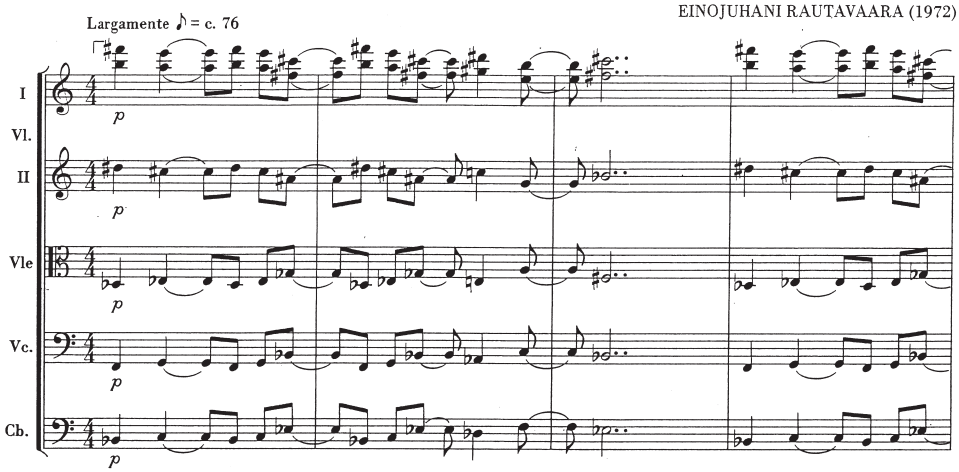
4. Gestural and material affinities between compositions of different periods. This can be seen as amounting to Rautavaara's compositional style. On the level of tone material, Rautavaara's employment of synthetic scales virtually throughout his career is a strong hallmark of his style, as is his usage of explicit symmetries. On the gestural level, Rautavaara tends to use such devices as tom-tom outbursts and chorale textures in his orchestral works. Further, he often uses homorhythmic string passages that may be harmonically symmetrical, as in his *Canto III* and Third Piano Concerto (see Examples 2.34a and 2.34b), or otherwise, as in *On the Last Frontier* (see Example 2.34c).

2.5.3 Paavo Heininen, Einojuhani Rautavaara, and Work Groups

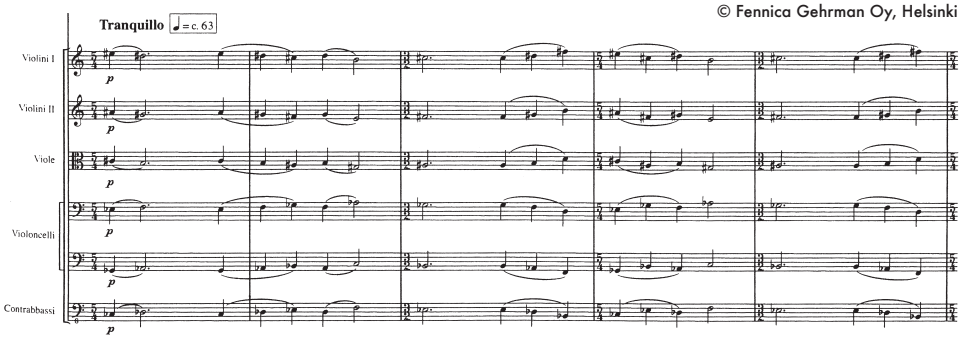
The Finnish composer Paavo Heininen (1976) has talked of the notion of work groups. According to this concept, undoubtedly drawn from Heininen's own experience, residual material sometimes remains from the composition of a piece; the composer subsequently uses this leftover material for another composition. Alternatively, the composing of one piece might trigger ideas for one or more others.

> In practice, the birth process of my works seems uncontinuous and extends itself over a number of years [...] because various compositions emerge from a single group of ideas and they rarely get worked on concurrently. [...] The only nearly finished work group is op. 32. Its progress began as a piano piece in the summer of 1965. But the material ended up being so difficult that I was not able to play it—and was left waiting. The Angst which was induced by piano technique prompted exactly opposite sonorities from the material, nostalgic music of a sostenuto and cantabile kind, and I had to work it into a string quartet. This solution freed my attitude from the difficulties of the bell-like sonorities and aggressive flurries in the original piano sonata, and allowed it to be finished (and now I am able to play it!). But the snippets left out of the sonata

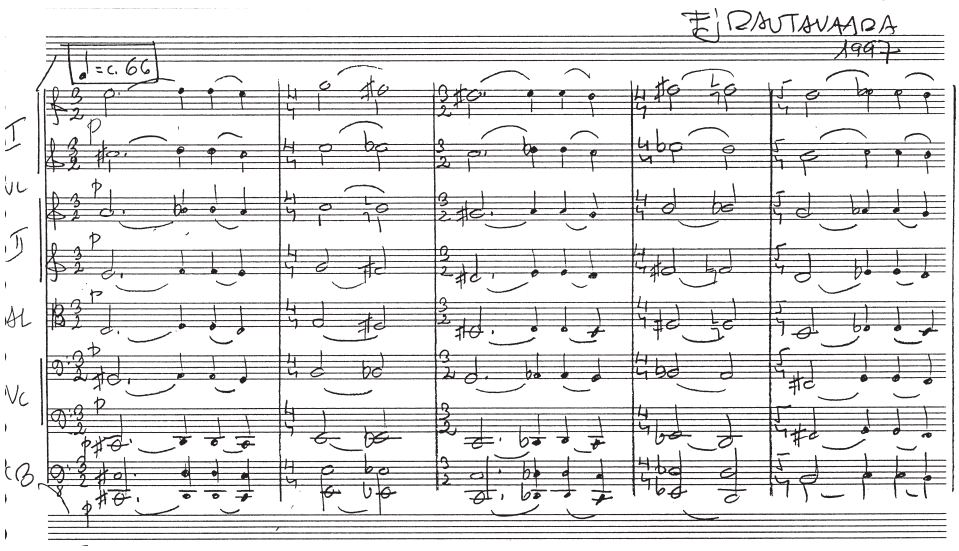
EINOJUHANI RAUTAVAARA (1972)



Example 2.34a. Canto III, mm. 1–4.



Example 2.34b. Piano Concerto No. 3 "Gift of Dreams", 1st movement, mm. 1–5 (strings only).



Example 2.34c. On the Last Frontier, mm. 1–5.

> evolved, as the third piece of opus 32, into a collection of piano miniatures. (Heininen 1976, 59–60.)[28]

Twenty-six years later, Heininen mentioned that work groups can also overlap; that is, it is possible for a single composition to belong to two or more work groups (Heininen 2002a).[29] For instance, a composition can have affinities with other compositions having the same instrumentation, and at the same time, to others which have similarities in tone organization.

It is evident from Heininen's production also that work groups can extend over quite long stretches of time. The different compositions of Opus 32, mentioned in the quote above, were written only a few years apart from each other. In contrast, *Blue Exposure* Op. 71 was premiered in March 2002, and in addition to compositions from the late 1990s and early 2000s, Heininen places *Touching* Op. 40 (1978) and *Utazawa no e* Op. 61 (1991) under the same opus number (Op. 71)—while paradoxically retaining their original opus numbers as well (Heininen 2002b).[30] Heininen also finds it quite possible, though improbable, for a composition from, say, the late 1970s to inspire a new one, which would thereafter be added to the same opus as the older composition. He strongly insists, however, that pieces in different styles should not be grouped together. (Heininen 2002a.)

If one considers Rautavaara's production, the idea of work groups seems at times quite appropriate. The affinity between *Pelimannit* and *Requiem* via "Jacob Könni"/"Credo et dubito" makes it quite plausible to view them as a part of the same work group because of the chronological and stylistic closeness of the two pieces. Similarly, the Seventh Symphony, *Die erste Elegie*, "Fragmentos de Agonía," *Notturno e danza*, and *Canto IV* are quite obviously tied together. Symphony No. 7 can be considered

28. "Käytännössä teosteni syntyprosessi näyttää terassimaiselta ja ulottuu monien vuosien alueelle siksi, […] että yhdestä idearyhmästä usein kasvaa useita teoksia, jotka harvoin pääsevät toteutusvuoroon välittömästi peräkkäin. […] Ainoa likimain toteutunut teosryhmä on op. 32. Sen kehitys alkoi pianoteoksena kesällä 1965. Mutta materiaali kasvoi niin vaikeaksi, etten osannut soittaa sitä – ja jäi odottamaan. Tuo pianotekninen Angst kirvoitti aineistosta esille täsmälleen vastakkaisia soinnillisia aspekteja, nostalgista sostenuto- ja cantabilemusiikkia, ja minun oli pakko tehdä siitä jousikvartetto. Tämä ratkaisu vapautti ja laukaisi suhteeni alkuperäisen pianosonaatin kellomaisten sointien ja aggressiivisten ryöppyjen vaikeuksiin ja päästi sen valmistumaan (ja nyt osaan sen soittaa!). Mutta sonaatin ulkopuolelle jääneistä noposista syntyi opuksen 32 kolmantena teoksena kokoelma pianominiatyyrejä."

29. Heininen answered my questions at a "Meet the composer" event at the Musica nova Helsinki Festival on March 3, 2002, just before the premiere of *Blue Exposure*. The information in this and the two subsequent paragraphs derive from that informal discussion. The main interviewer at the event was Ainomaija Pennanen, and my questions were posed during the concluding question-and-answer period.

30. The article printed in the Musica nova Helsinki program book is a condensed version of Heininen's original text, which was handed out to the audience at the concert. It is in this longer original text that Heininen discusses the works that make up his Opus 71; this subject has been redacted from the text in the actual printed program book.

the primary work among these as it was the last to be finished and its scope is the largest in duration and orchestration—not to mention the fact that it is a symphony, a prestigious genre, especially in Finland. See Chapter 8.2 for more on Symphony No. 7.

2.5.4 Topics, Leitmotivs, and Programmatic Symphonies

In classical music, composers often used characteristic rhythms, genres, and styles, such as dances, hunting signals, or marches that "had a picturesque flavor," to establish common ground with the audience, to evoke certain feelings and affects, or both (Ratner 1980, 9). Such figures have been designated as musical topics (e.g., Ratner 1980; Hatten 1994; Samuels 1995; Monelle 2000 and 2006; Välimäki 2005, 119–123; Hautsalo 2008, 70–82). A listener might know nothing about technical concerns such as modulations, suspensions, diminished-seventh chords, rounded binary form, and the like. But the listener would share common ground provided by topics, understood in the sense of musical commonplaces such as waltz, hunting signals, and other sounds familiar to the trained and untrained ear alike. "Topics appear as fully worked-out pieces, i.e., types, or as figures and progressions within a piece, i.e., styles" (Ratner 1980, 9). Topics (from the Greek "topoi") served as kinds of bottom-line musical subjects that allowed access to the music by both professionals and amateurs alike.

After the classical period, topical figures seem to have become even more self-conscious. Whereas classical music was greatly constrained by a common, formalized musical language, in later times expression became freer. Musical figures often recall earlier music, and indeed, musical masterworks of the past; instead of referring to topics, affects, or to be more precise, extramusical pictorialism, composers often felt compelled to recall earlier ventures in the same field. Hence Brahms, in the finale of his First Symphony alludes to Beethoven's Ninth Symphony—so evidently that "any jackass can see that," as Brahms is reported to have said (Swafford 1997, 404).[31]

Another famous reference to an earlier musical masterpiece occurs in Alban Berg's *Lyric Suite*, where he quotes the "Tristan chord." References to Wagner's *Tristan and Isolde*, of course, are not at all rare in twentieth-century music. The Tristan chord is considered a musical symbol of love—and unrequited, suffering love at that.[32] In the

31. Raymond Monelle (2000, 126–133) discusses the topical implications of the finale of Brahms's First Symphony. See also Charles Rosen's "Brahms: Influence, Plagiarism, and Inspiration" (2000, 127–145) concerning Brahms's allusions to Beethoven and Chopin in other compositions.

32. Wagner himself seems to have thought so, since he quotes the Tristan chord in Act 3, Scene 4 of *Die Meistersinger von Nürnberg*. Connections between topics and leitmotivs are discussed by Monelle (2000, 41–80).

Lyric Suite, the Tristan chord may well symbolize Berg's unfulfilled love for Hanna Fuchs-Robettin. In the same way, the allusion to the "Ode to Joy" in the finale of Brahms's First Symphony recalls the feeling of victory, through the similar affects that it has in Beethoven's last symphony.

As music history evolves, it becomes more and more self-conscious, facilitated by the wide circulation of masterpieces in the form of recordings and scores, and composers seem compelled to acknowledge previous musical triumphs. These acknowledgements can work in the same way as topics do in classical music—they evoke something outside the immediate vicinity of the current composition, and that "something" can form a common ground between composer and listener. But whereas in the classical period references were made to extramusical situations, in later periods references were also made to *musical situations referring to* extramusical situations. This practice recalls the postmodern attitude described so eloquently by Umberto Eco:

> I think of the postmodern attitude as that of a man who loves a very cultivated woman and knows he cannot say to her, "I love you madly," because he knows that she knows (and that she knows that he knows) that these words have already been written by Barbara Cartland. Still, there is a solution. He can say, "As Barbara Cartland would put it, I love you madly." At this point, having avoided false innocence, having said clearly that it is no longer possible to speak innocently, he will nevertheless have said what he wanted to say to the woman: that he loves her, but he loves her in an age of lost innocence. [...] Neither of the two speakers will feel innocent, both will have accepted the challenge of the past, of the already said, which cannot be eliminated.... (Eco 1994 [1983], 530–531.)

This is a quite famous and well-loved passage regarding the spirit of postmodernism; it is quoted, for instance, by Heiniö in connection with euphemisms and masked utterances in reflexivity (1988, 23). Rautavaara, too, seems to be familiar with the above passage; Hako reports a statement by Rautavaara concerning postmodernism where Rautavaara quotes precisely this passage by Eco (Hako 2000, 75).[33] It could be argued that the use of topics in the classical period is a phenomenon similar to the postmodern condition; both refer to that which is outside of themselves in order to evoke something extramusical. Later times, however, show evidence of a lost innocence. Monumental pieces such as Beethoven's symphonies, *Tristan and Isolde,* or *The Rite of Spring* are simply too vast to be ignored and have become topical figures

33. Hako does not give a source for his citation. Heiniö also substitutes Liala for Barbara Cartland in his quotation, which comes from the Finnish translation of Eco's *The Name of the Rose*.

themselves. It also could be argued that Rautavaara refers to his own compositions to transform recurring musical figures into topics, at least in the context of his own production. Such an argument, however, would require clear definitions and evidence of the programmes of the recurring motives. However, as I noted above, Rautavaara does not seek to emphasize his auto-quotations, nor does he explicitly attach programmes to them. Considering the "lost innocence" of postmodernism, it is quite surprising to find such a classical topic as a waltz in the third movement (*Saint-Rémy*) of Rautavaara's Sixth Symphony. In that symphony, the genealogy of the waltz is quite clear; like almost everything else in the symphony, it comes from the opera *Vincent*, in which it forms a part of the dramatic narrative. The waltz is not surprising as part of an opera,[34] but as a part of a symphony, a genre generally regarded as the archetypal form of absolute music, it raises questions as well as eyebrows.

Of course, for a long time symphonies have not been considered as exclusively "absolute" music. Even aspects of Beethoven's symphonies can be seen as programmatic; Tchaikovsky's, Mahler's, and Shostakovich's symphonies are famously so. Rautavaara's symphonies, too, are often at least mildly programmatic,[35] although the composer denies having any direct narratives in mind other than musical ones (see, for example, Rautavaara 1996). In fact, Rautavaara (1992) stresses that even in the Sixth Symphony, which is composed of materials derived from the opera *Vincent*, the narrativity is exclusively musical. According to Rautavaara,

> [m]y point of departure for the first two movements was the "depiction," using motivic means, of one particular painting by van Gogh. This appears in the symphony in almost the same guise as in the opera. The music then proceeds out of this motive, to take on the form of autonomous symphonic events. I again use a motive or "picture" at the end of the *Saint-Rémy* movement. (Ibid.)

Vincentiana can thus be seen as hovering between modernism and postmodernism. The point of departure is postmodern via the almost collage-like references to the paintings of Vincent van Gogh and the opera *Vincent*. But Rautavaara then turns away from such extraneous references, claiming that, after the point of departure, all

34. Heiniö (1988, 57) writes: "It is traditionally typical for the opera that different musical styles are used to serve as illustration, whereby allusions and citations are explained by the libretto." Therefore, the appearance of "Närböläisten braa speli" of *Pelimannit* (1952) is hardly surprising in *Aleksis Kivi* (1995).

35. This is illustrated by the composer's habit of giving subtitles to his symphonies: the Fourth is called "Arabescata," the Sixth "Vincentiana," the Seventh "Angel of Light," and the Eighth "The Journey." Although the subtitle was later withdrawn, the Fifth Symphony was originally to be called "Monologue with Angels."

narrativity becomes musical and symphonic. This is plausible, however, only if the listener knows nothing of the subtitle of the work or the opera *Vincent*. Still, even if such were the case, the waltz of *Saint-Rémy* would stand out from its surroundings. The movement differs from everything else in Rautavaara's non-operatic production; in the operas, on the other hand, he often used allusions to other musical styles as diegetic devices. There is a twelve-tone blues in *Kaivos*, and the very idea of *Apollon contra Marsyas* is a contest between art and entertainment. In *Vincent*, the waltz is a directly musical and topical reference to something outside the work itself—and, significantly, it is a musical gesture that does not refer to Rautavaara himself. Yet even here, Rautavaara turns to the musical narrativity characteristic of his symphonic scherzos (*Saint-Rémy* is also in essence a scherzo); the music proceeds to a catastrophe, which is in this case depicted by the waltz becoming alienated by the sounds of a Yamaha DX7 synthesizer.

2.5.5 Rautavaara: Postmodern or Supermodern?

Are Rautavaara's auto-quotations postmodern? Do they propose "incredulity toward metanarratives" (cf. Lyotard 1984, xxiv)? His pieces are not "modern" in the sense of always being new, because they often refer to earlier compositions. This seems to be exactly the kind of "incredulity" that Lyotard (ibid.) finds to be a trait of postmodernity—Rautavaara abandons the project of the Modern and creates his own narrative. Yet, there is another way of looking at the issue, by which Rautavaara cannot be regarded as postmodern. Whereas postmodernism can be seen as attempting to shatter the "grand narratives" of music, Rautavaara's auto-quotations accomplish the exact opposite; they tend to strengthen the unity of Rautavaara's music and thereby create a narrative that is even stronger than the kind which usually occurs in individual, "modern" pieces. Sivuoja-Gunaratnam (1997, 239) seems accurate in her view that Rautavaara uses auto-quotations to create music in "zero-degree time," and that Rautavaara's production "forms a huge macro-text, which is suffused by a network of auto-allusions." It could even be argued that Rautavaara seeks to suppress the vast network of intertextual connections that ordinarily arises when someone listens to music[36] and to replace it with his own "network of auto-allusions." If one adopts this view, Rautavaara's œuvre forms an intratextual, rather than intertextual network (cf. Orr 2003, 138). Moreover, Rautavaara's habit of recycling amounts, in a sense, to creating works that are "supermodern" (for lack of a better term) as opposed to "postmodern." Hence, Rautavaara appears to be a "supermodern intratextualist" instead of a "postmodern intertextualist."

36. For examples of these, see Monelle 2000, 155–156.

Nevertheless, the postmodern finds a place in this practice, in that Rautavaara tends to acknowledge music history, which inevitably weakens the independent identity of his own compositions. In his case, however, there is a detour from the postmodern attitude. This stems from the fact that references in his compositions are most often to his own previous pieces—he acknowledges mainly his own compositional past.

Rautavaara's auto-quotations seem to challenge the modernist tenet that every work must signify progress; that "[t]he composer conceives of a musical shape, which appears to the listener as a complete self-contained work with a clearly defined beginning and end, as being part of an evolutionary process which has always surpassed that which has been achieved" (Dahlhaus 1987, 211). If the composer uses something that has existed before, how progressive can the resulting piece be? It should be noted, however, that Rautavaara very rarely used older compositions as such, but was more likely to use portions of them as parts of new compositions—most often reorchestrated or transformed in some other way and embedded seamlessly into the surrounding textures. It could then be stated that Rautavaara did not abandon the idea of progress, even in his last period. He did get things done, but slowly, because of the time it took for him to plod through his own compositional past.

3
Polychordal Harmonies in Rautavaara's Early Compositions (1946–1955)

In an interview published in 1958, Einojuhani Rautavaara recounted the birth process of his first composition: "I stepped up to a bookcase, randomly selected a poem from a collection of Kaarlo Sarkia's poems—what it was, I fortunately do not recall anymore—and composed it. A symptom of self-aggrandizement, typical of puberty…" (Dahlgren 1958.)[1] In 2009, too, Rautavaara reminisced about his earliest compositions:

> As a schoolboy I started to compose small piano pieces and songs. The experience was strange, because a very special state of mind was required, a kind of trance, which I learned to achieve by improvising at the piano. I knew exactly when I had reached the right atmosphere: the moment was there, I was in it. (Allenby 2009.)

Rautavaara began to entertain the notion of becoming a composer in 1945, when he was 17 years old (see Tiikkaja 2014, 45–47). At the same time, he considered embarking on a singer's career, but after a private aptitude test, taken with the composer and choral conductor Heikki Klemetti, he learned that singing was not in Klemetti's opinion a viable option for him (ibid., 56–57). But he did begin taking piano lessons, and it seems obvious that it was for these dual interests, piano and the voice, that his first compositions were songs and piano pieces.

3.1 Early Songs and Piano Pieces: Added-Tone Harmonies

Many of Rautavaara's early compositions were modelled on the music that he encountered while studying the piano with his teacher Astrid Joutseno in Turku. Joutse-

1. Perhaps this very statement must also be counted as "self-aggrandizement" on the part of the 30-year-old Rautavaara, because as late as 2007, he had no trouble remembering that the title of his first composition was *Viaton*. (Rautavaara 2007).

no was not a strict taskmaster; she did not pressure Rautavaara into playing scales and etudes that would eventually have resulted in a sound piano technique (Rautavaara 1989, 36). Instead, she allowed Rautavaara to take on pianistic challenges that were far beyond his limited technique. This meant that while his piano technique did not develop very fast, his musical thinking did (ibid.). He waded through scores of music and was able to get familiar with some of the most modern music that was available in Finland at the time—Respighi, Debussy, Ravel, and Hindemith (ibid.). These early musical impulses would shape his musical thought profoundly and their influence was evident in his early compositions.

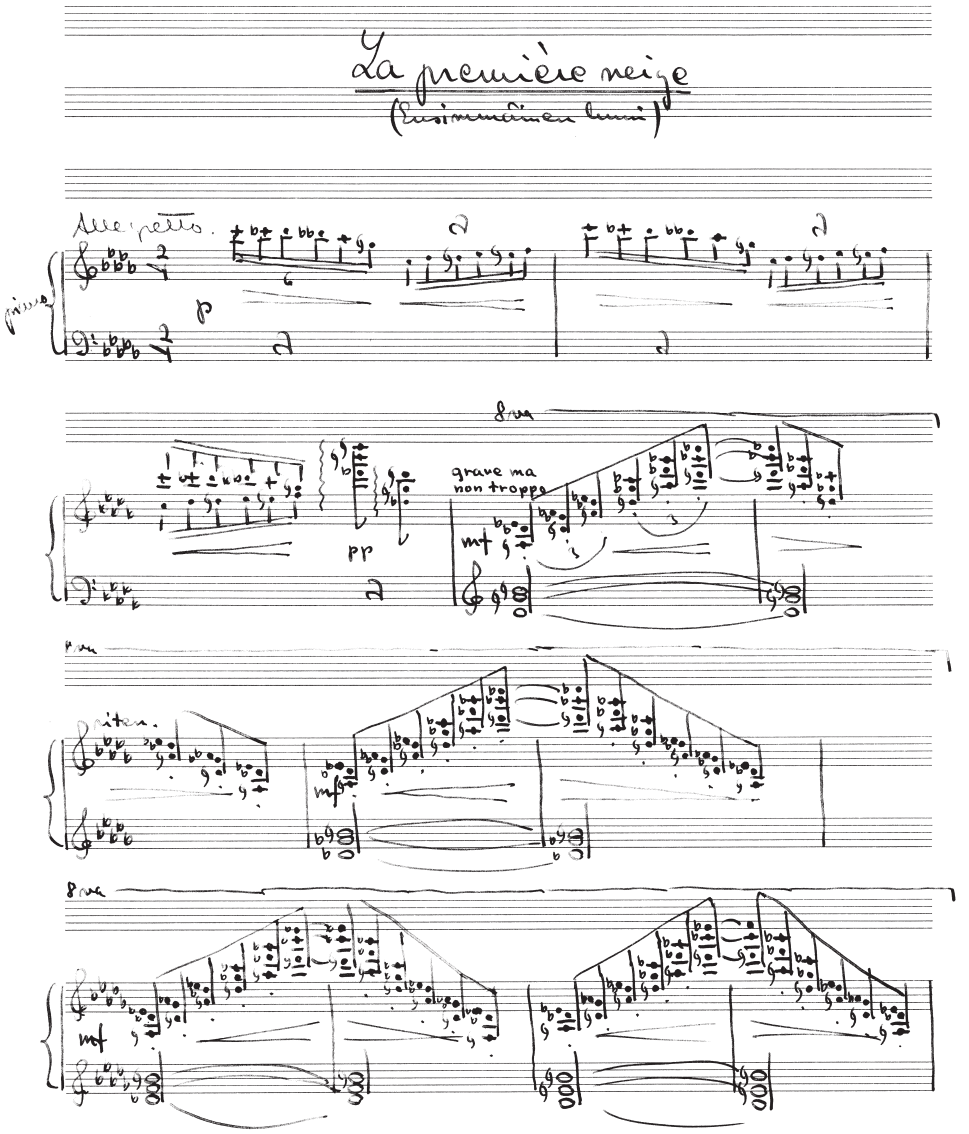
The origins of Rautavaara's harmonic preferences can be traced to an experience even before he started to compose actively. In July 1970, Rautavaara recounted this event in his diary, roughly dating it to some time in the first half of the 1940s:

> When about 15 years old I happened to hear on the radio a performance of Prokofiev's violin concerto (which one?). The brilliancy of the sound and harmony made a tremendous impression on me. Exactly that very sound of the Prokofiev harmony (overtones, polyharmonic kind of chords) has been my ideal practically always. The ugly muddiness of normal 12 tone was really hard to keep up in the 50's. Some kind of tonal harmony is a personal need, and the brilliant sound of two thirds-chords especially. (Rautavaara 1969a, entry on 22 July 1970.)[2]

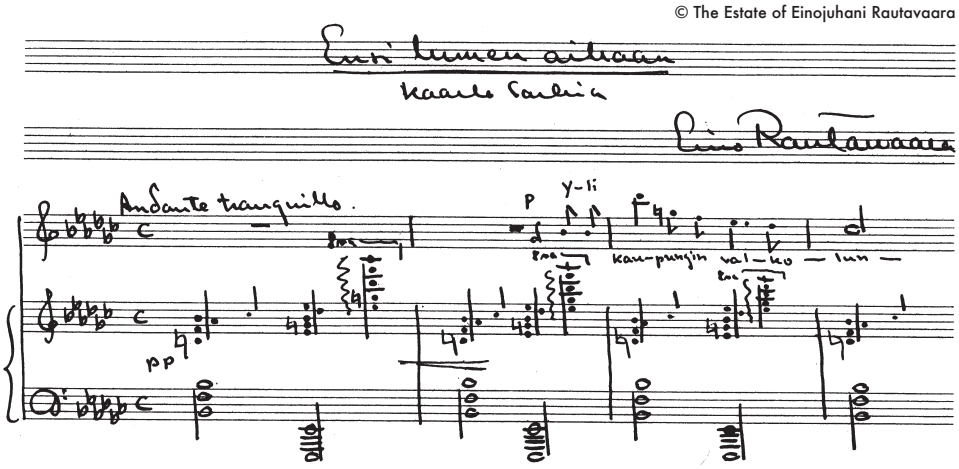
It was to this ideal that Rautavaara soon aimed, although his very earliest compositions do not yet show polyharmonies. Instead, harmonic color is created by added-tone chords.

Rautavaara's first compositions were influenced by Claude Debussy (Rautavaara 1989, 36–37). In 1946, he entered a composition contest that was organized by Suomen teiniliitto, a youth institution that served as an umbrella organization for the student bodies of the country's secondary schools. Rautavaara was awarded the first and second prizes: a piano piece entitled *La première neige* earned him the first prize and *Hunnuton*, a song to a poem by Aila Meriluoto, the second prize. Rautavaara submitted his compositions under the pseudonym "Claude" as an obvious reference to Claude Debussy (Rautavaara 1947b; Uusi Suomi 1947). *Hunnuton* has since been lost, but *La première neige* has survived as the earliest existing composition of Eino-

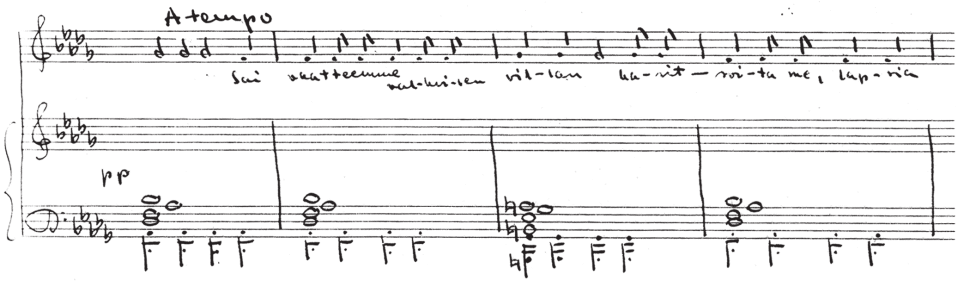
2. Many of Rautavaara's entries in this diary, begun in 1969, are written in English, which was, in all likelihood, his fourth language after Finnish, Swedish, and German. Quotations from Rautavaara's diary preserve the idiosyncracies of his English. In this passage, Rautavaara's term "thirds-chords" may refer to triads, or more generally to tertian chords, i.e., chords constructed of thirds. Possibly his use of the term "thirds-chord" was influenced by the Finnish word for triad, "kolmisointu," the literal translation of which would be "three-chord," or even "tri-chord."



Example 3.1. La première neige, mm. 1–11.



Example 3.2a. Ensi lumen aikaan, mm. 1–4.



Example 3.2b. Ensi lumen aikaan, mm. 22–25.

juhani Rautavaara. It is a loosely constructed fantasy on chromatic motives that evidently depict the falling of the first snow of winter (Example 3.1).

Other early compositions include *Kaupungissa sataa* (It Rains in the City) for piano (1947–1948; lost), *Ensi lumen aikaan* (At the Time of First Snow) for voice and piano (1947), and *Nu så dansa denna världens barn* (The Children of the World Begin to Dance) for voice and piano (1948). *Ensi lumen aikaan* and *Nu så dansa denna världens barn* are both constructed in quite simple a fashion of alternating chords. The outer sections of the ABA form of *Ensi lumen aikaan* are formed by alternating seventh chords, while the central section contains alternation of added-sixth chords. The vocal melody has some modal inflections (see Example 3.2).

The harmonies of *Nu så dansa denna världens barn* contain parallel motions of added-sixth chords, contrasted in places by passages of alternating ninth- and eleventh chords. These rather dream-like harmonies are complemented by the mixolydian vocal melody. The absence of the leading tone in the mixolydian mode gives the melody a distant and dispassionate character.

The hallmarks of the very earliest compositions of Rautavaara, then, include (1) rather conservative harmonies, mainly with tertian compound chords such as seventh- and added sixth-chords; (2) harmonic progressions built of oscillations of harmonies that create continuity akin to ostinati; and (3) relative lack of drama resulting from (1) and (2).

3.2 Three Sonnets of Shakespeare: Tonal Uncertainty Influenced by Britten

In getting to know the music that interested him, Rautavaara occasionally used an age-old method: he copied by hand the compositions that he wished to learn in order to really familiarize himself with them. There remain hand-written copies of piano compositions, pieces by Sergey Prokofiev and Dmitry Kabalevsky, that were obviously used also for piano practice, judging from the many fingerings and pedal instructions later added to them in pencil. But there are also piano reductions of orchestral pieces, such as the first movement of Sergey Prokofiev's Symphony No. 5, that were, no doubt, written out primarily as a composition lesson.[3]

Rautavaara also made copies of Benjamin Britten's music. He wrote out piano reductions of at least two pieces: "Dawn" from *Four Sea Interludes* and an excerpt of *The Rape of Lucretia*. It seems probable that Britten's *Seven Sonnets of Michelangelo* served as a model for a set of sonnets of his own. This composition, *Three Sonnets of Shakespeare*, owes its existence, at least in part, to Rautavaara's friend Seppo Nummi, who was a co-editor in an arts journal titled *Kuva*. The magazine published sheet music supplements, and in the beginning of the 1950s, Nummi asked Rautavaara to contribute a suitable piece. For *Kuva*, he only wrote one song, *That Time of Year*, but soon added two other songs to it. *That Time of Year* was initially set in a Finnish translation of the original sonnet and was printed in *Kuva* as such (Rautavaara 1951). Rautavaara soon recast it in the original English. There is a fascinating tension between the archaic English of Shakespeare and the relatively modern music of Rautavaara. Similarly, the Sonnets of Britten derive much of their charm from the antiquated Italian of Michelangelo, which contrasts with Britten's 20th-century music.

There are also other points of contact between Britten's and Rautavaara's compositions. The texts of both compositions are ancient love poems, and the music of

3. There are no dates on these pieces, so they are impossible to date precisely. Only the first four pages of Rautavaara's reduction of Prokofiev's symphony have survived. All of the hand-written copies discussed in this and the following paragraph are among the uncatalogued materials at the Finnish National Library.

Three Sonnets of Shakespeare is clearly influenced by Britten's use of polytonality, the procedure of pitting two or more keys against each other.

According to Philip Rupprecht, there is a clear tendency in Britten's music to create uncertainty with respect to tonality: "The clarity of a single tonic is blurred, most often by the presence within the texture of a second focal pitch, undermining the possibility of unequivocal tonal priority…" (1996, 311). However, as Rupprecht points out, Britten's interest in creating tonal uncertainty is different from Darius Milhaud's practice of creating stark tonal oppositions, "one-to-one contrapuntal superposition of layers," with the aim of creating an atonal harmonic total (ibid., 312). "Britten's texture, unlike Milhaud's, does not depict a clash of equals; rather, the impression is of a more subtle challenge to the security of one central tonal presence … by a second, less well defined, yet still recognizably independent tonal agent…" (ibid., 313).[4]

Tonal uncertainty, in the manner described by Rupprecht, is a salient feature of many of Britten's compositions, including the Michelangelo Sonnets. Rautavaara's Shakespeare Sonnets, likewise, show the composer employing tonally unrelated triads simultaneously to create an ambiguous harmonic environment. Whether this amounts to polytonality as such is a matter for future research. In any case, Rautavaara usually pits two distinct triads against each other to create bi-chordal harmonies. Such harmonies are clearly visible in the piano part already in the beginning of *That Time of Year* (See Example 3.3a).

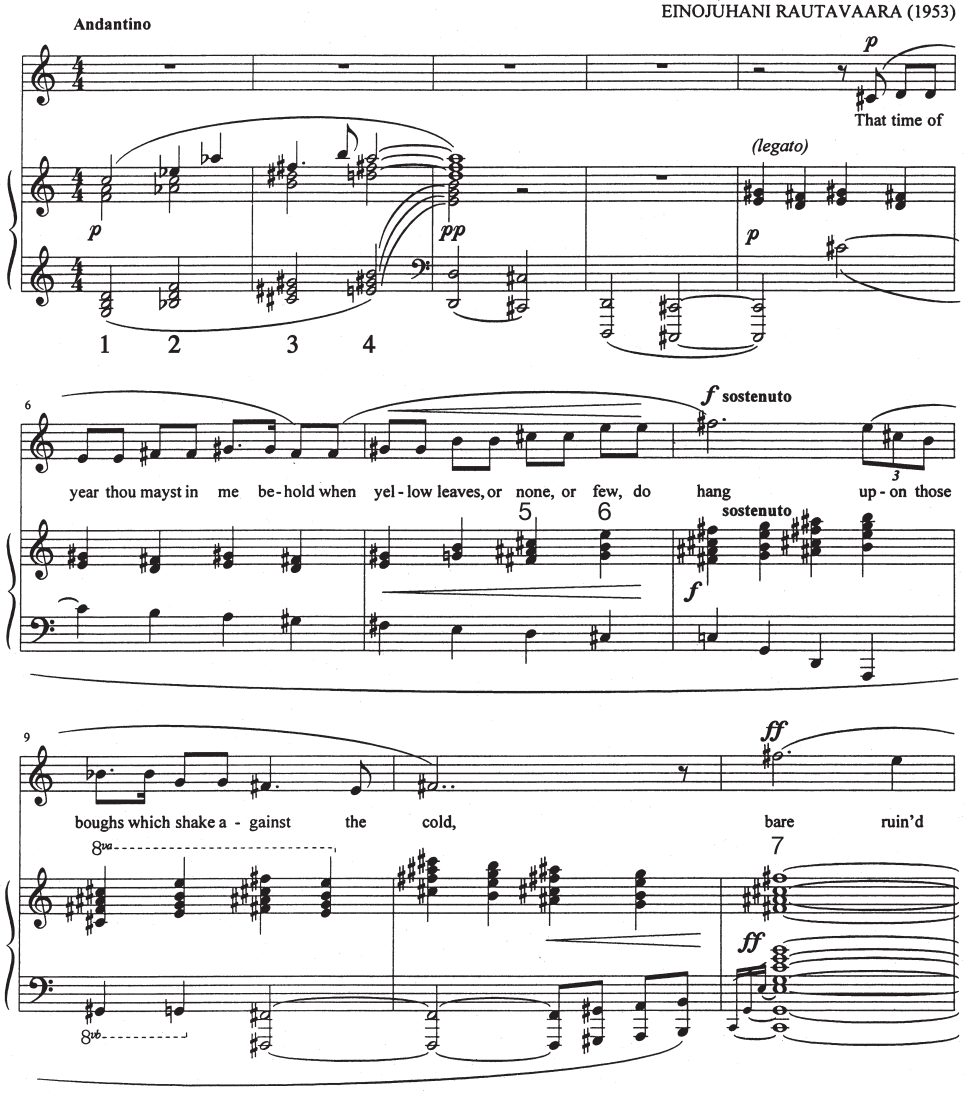
That Time of Year is a fairly simple song in a binary form, or AA^1. The two sections can further be subdivided into phrases $abca^1b^1c^1$. The bi-chordal motion employed by Rautavaara makes it relatively easy to track the harmonies on the Harmonic Circle, as they are often formed by stacking two triads onto one other. Phrase *a* acts as a four-measure introduction to the song, and the first chord is constructed of G major and F major chords. B♭ major/A♭ major and C♯ major/B major chords follow, before the introduction ends on an E major/D major chord. In the first two measures, the triad sequences played by each hand form a different transposition of the octatonic scale. On the right hand, the notes of the F, A♭, B, and D major triads form the octatonic collection starting on the note D (OCT 2,3); on the left hand, the notes of the

4. See also David Forrest's article "Prolongation in the Choral Music of Benjamin Britten," where he investigates three choral pieces by "employing symmetrical interval cycles as catalysts for prolongation." (2010, 1). As Rautavaara, too, was often preoccupied with symmetrical interval cycles and other symmetries, Forrest's analyses might be useful as models for anyone seeking to make prolongational analyses of Rautavaara's music. In other respects, too, investigating the similarities between Britten's and Rautavaara's harmonies might be an interesting topic for future study. For instance, the strong tritonal tension that drives Britten's *Les Illuminations* seems to be echoed in many passages in Rautavaara's œuvre. Likewise, many of Rautavaara's choral works sound surprisingly similar, with respect to harmonic motion, to Britten's *Hymn to Saint Cecilia*, analyzed by Forrest in the aforementioned article.

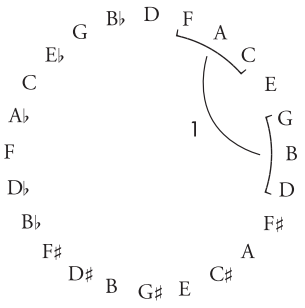
1. That Time of Year

William Shakespeare (Sonnet LXXIII)

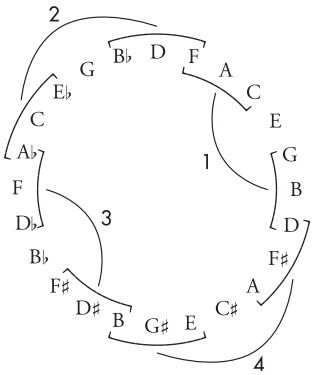
EINOJUHANI RAUTAVAARA (1953)



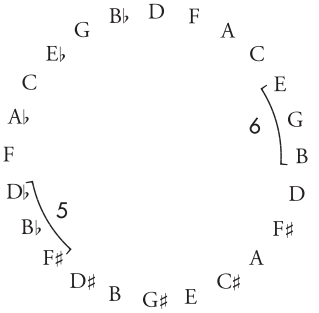
Example 3.3a. That Time of Year, mm. 1–11.



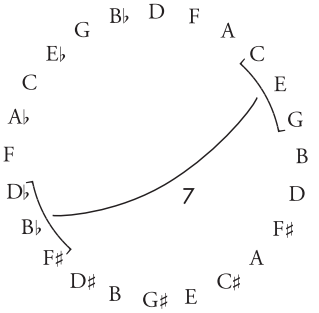
Example 3.3b. The first chord of That Time of Year on the Harmonic Circle.



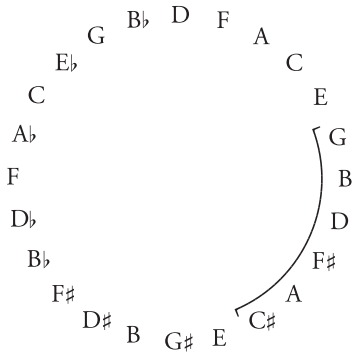
Example 3.3c. That Time of Year, mm. 1–3, harmonies on the Harmonic Circle.



Example 3.3d. The E minor and F♯ major chords of mm. 7–10 on the Harmonic Circle.



Example 3.3e. The C major/F♯ major harmony of m. 11 on the Harmonic Circle.



Example 3.3f. G major/F♯ minor harmony in m. 15.

G, B♭, C♯, and E major triads form the octatonic collection the transposition starting on the note C♯ (OCT 1,2).

On the Harmonic Circle, the two triads of the G major/F major chord lie quite close to each other, however with a small gap between them (see Example 3.3b). The gap lends the chord a slight sense of dissonance, especially since the two triads are so clearly separated. The dissonance arises from the interval classes 2 (major seconds/minor sevenths) that lie between the pitch classes (G-F, B-A, D-C) of the constituent chords. If the two triads of the initial chord were on an uninterrupted segment of the Harmonic Circle, for example G major/F♯ minor, the dissonant character would be lesser, or at least different, because the chord would then be possible to interpret as a single 11th chord.

Similar gaps lie between the other three chords as well, and the motion around the Circle of the same chord intuitively fits the aural impression of the chord constantly transposing upwards. The motion of the chord roots, G-B♭-C♯-E, outlines a diminished seventh chord and divides the octave symmetrically into minor thirds. Therefore, the chords also move uniformly around the Harmonic Circle when tracked on it (Example 3.3c).

Phrase *b* encompasses measures 5–13. The voice enters atop a C♯ bass and an oscillation between E-G♯ and D-F♯ dyads in the pianist's right hand. The C♯ in the bass and the E-G♯ form a C♯ minor triad, so that is heard as the structural harmony, while the D-F♯ dyads are heard as neighboring harmonies against the C♯ bass. In measures 5–7, the ascending vocal melody and the descending bass line proceed in a C♯ Phrygian mode, before giving way to an alternation between F♯ major and E minor chords in the piano. The chords have no common tones and are tonally distant, so the motion between them is quite expressive. On the Harmonic Circle, the chords are not quite but almost diametrically opposite each other (see Example 3.3d)—a tritone relation would map the chords on diametrically opposite sides.

A tritone relation does soon appear in the chord of measure 11, where the pianist plays a harmony constructed of C major and F♯ major chords—the Petrushka chord, named so after its prominence in Igor Stravinsky's famous ballet. These two triads appear opposite each other on the Harmonic Circle and belong to the octatonic collection OCT 0,1—in a sense, they fill the gap left by the other two transpositions of the octatonic collection in measures 1 and 2. When the Petrushka chord appears, all three possible transpositions of the octatonic scale are used, and together they also use all 12 notes of the chromatic scale. In terms of motion on the Harmonic Circle, the E minor chord from measures 7–10 moves one step counter-clockwise to C major, thereby creating a triadic harmony with considerable tension (see Example 3.3e).

The tense harmony is reciprocated by the singer with fortissimo dynamics and repetition of the highest pitch in the melody so far, an F♯5, now in a louder dynamic marking than before in measure 8. F♯5 remains the highest pitch in the vocal melody of the song, and its subsequent appearances are always in climactic moments.

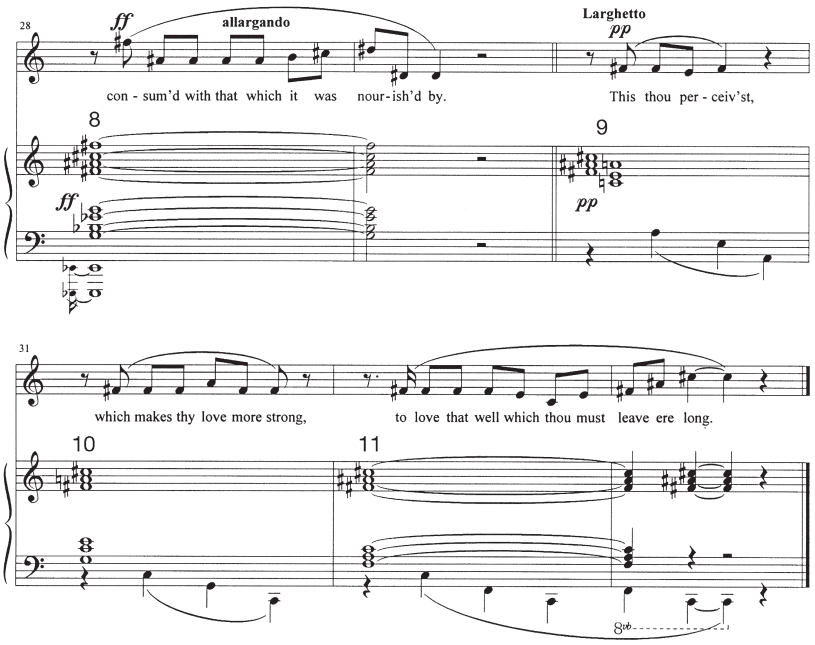
Phrase *c*, in measures 14–17, continues with a C major/F♯ major harmony, then moves to a G major/F♯ minor chord in measure 15 before returning to C major/F♯ major in measures 16–17. The excursion to G major/F♯ minor marks a slight release of tension, as the two triads are quite close to each other and together make up a continuous 6-note segment of the Harmonic Circle. (Example 3.3f).

Phrase a^1 (mm. 18–21) is a transposed version of *a*, now with a vocal melody present. Phrase b^1 is transposed as well, to B Phrygian from the C♯ Phrygian of phrase *b*. Phrase b^1 (mm. 22–29) culminates in measure 28 on a harmony that combines F♯ major and E♭ major triads in fortissimo dynamics; the flavor of the dissonance is slightly different than the Petrushka chord in the corresponding part of the preceding phrase *b* (Example 3.4a). The two triads are somewhat closer to each other on the Harmonic Circle (see Example 3.4b). However, in phrase c^1, which concludes the song (mm. 30–33), the constituent triads of the harmonies again move further away from each other: to an F♯ major/A minor chord in measure 30, then to F♯ minor/C major in measure 31, and finally to F♯ major/F major in measure 32 (see Example 3.4c–e).

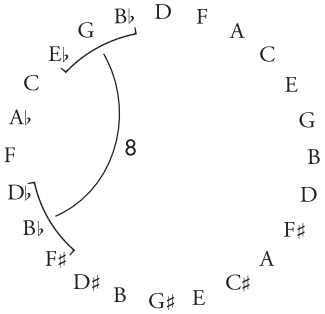
What can we deduce from tracking the harmonies of *That Time of Year* on the Harmonic Circle? In the four measures of the introduction, phrase *a*, the uniform motion through the harmonic space introduces to the listener a bi-chordal environment which will last throughout the song. However, in the introduction, the dissonances created by the superimposed triads contain mainly major seconds—there is only one semitone in each of the six-note harmonies. The predominance of major seconds instead of minor seconds renders the introduction a rather pensive mood. When the vocal melody begins, in phrase *b*, the harmony begins to oscillate between E minor and F♯ major chords, which includes semitonal motion between notes F♯-G and A♯-B, accompanied by a minor third motion between notes C♯-E.[5] The Petrushka chord in measure 11 lays out the semitonal implications of the oscillation of the preceding measures into one harmony where the intervals overlap each other: interval classes 1 in notes F♯-G and C♯-C and a tritone in notes A♯-E.

After this, the harmonies fluctuate in terms of degrees of dissonance, as illustrated in Example 3.4. The tendency to move from the whole-tone environment of the in-

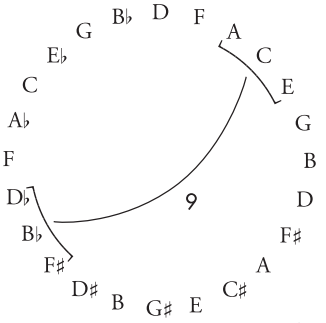
5. It is possible that the abundance of minor seconds in this part of the song leads the listener to hear even this minor third C♯-E as an augmented second D♭-E; I suspect this is a matter of individual perception.



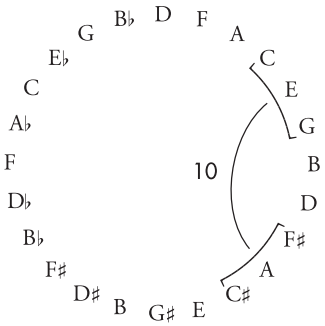
Example 3.4a. That Time of Year, mm. 28–33.



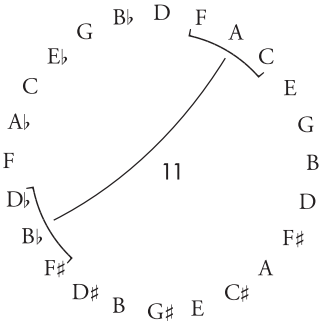
Example 3.4b. F♯ major/ E♭ major in m. 28.



Example 3.4c. F♯ major/A minor in m. 30.



Example 3.4d. F♯ minor/C major in m. 31.



Example 3.4e. F♯ major/F major in m. 32.

troduction to more dissonant semitonal harmonies culminates at the very end, where the final harmony contains two major triads at the distance of a minor second: F♯ major and F major, together creating three pairs of semitones.

3.3 Fünf Sonette an Orpheus: Tritone Poles and Fateful Inevitability

Rautavaara wrote *Fünf Sonette an Orpheus* in 1954–55; the first three songs were written in Helsinki in January 1954 and the remaining two in Vienna in February 1955 (Tiikkaja 2014, 112, 122). For texts, he took the first five poems from Rainer Maria Rilke's *Die Sonette an Orpheus*. The overall mood of the Sonnets to Orpheus is one of fateful irrevocability, both in Rilke's original sonnets and in Rautavaara's setting of them. Rilke's powerful, at times obscure text welds together great sorrow and dream-like alienation and is imbued with mythological references. The Orpheus of the title, of course, refers to the Greek god of poetry and music. Rilke wrote his sonnets in 1922 as a "tombeau" for the young dancer Wera Ouckama Knoop, his daughter's friend, who had passed away unexpectedly at the age of 19 in 1919 (cf. Nikula 2005, 134). His sonnets thus have a tragic, mourning quality.

The mood of Rautavaara's setting of Rilke's sonnets is somber. For instance, the first sonnet, *Da stieg ein Baum* is full of descending motives, suggesting the inevitability of fate, even as the all-embracing descending lines, usually in the accompaniment, are offset with more local ascending ones in the melody (see Example 3.5a). The initial ascending motive on the words "Da stieg ein Baum" is labeled the "Orphic motive" by Kaisu Nikula (ibid., 160) and depicts the tree ("Baum") by the very ascent of the melody. The tree, according to Nikula, is a symbol of Orphic singing. The singer's motives constantly ascend, going against the descending lines of the piano. It is as if the singer is attempting to break free from the gravity of the piano accompaniment. The defiant climax of the song, with the words "Brüllen, Schrei, Geröhr schien klein in ihren Herzen," attempts to revert the direction of the descending lines, but to no avail; the descending motives return after a brief moment of indecision.

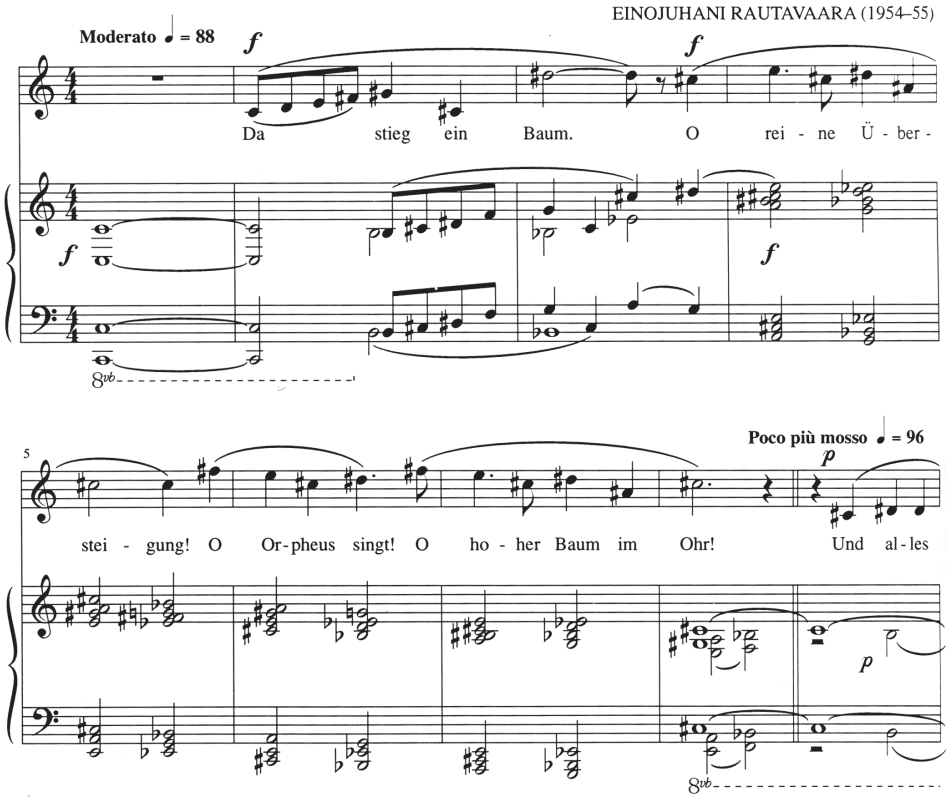
The contrast between the ascending melody and descending bass is apparent already in the introduction, as the bass line descends chromatically from C to A in measures 1–4 while the melodic motives both in the voice and piano have a whole-tone character. In measures 4–7 the descent continues in the piano, now in a descending series of inversions of A major and E♭ major chords, both with major sevenths as added tones. The chords create a dynamic tritone axis in which the two chords battle for dominance as neither is structurally more stable. They are found on opposite sides on

FÜNF SONETTE AN ORPHEUS

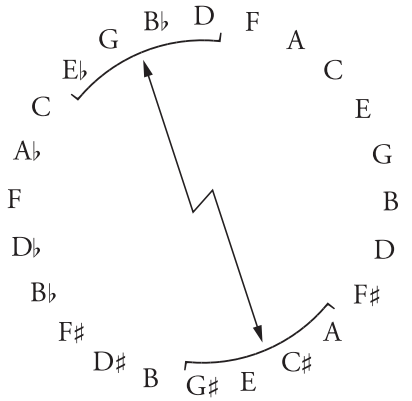
1. Da stieg ein Baum

Rainer Maria Rilke

EINOJUHANI RAUTAVAARA (1954–55)



Example 3.5a. Fünf Sonette an Orpheus 1: Da stieg ein Baum, mm. 1–9.



Example 3.5b. The A major and E♭ major seventh chords of mm. 4–7 on the Harmonic Circle.

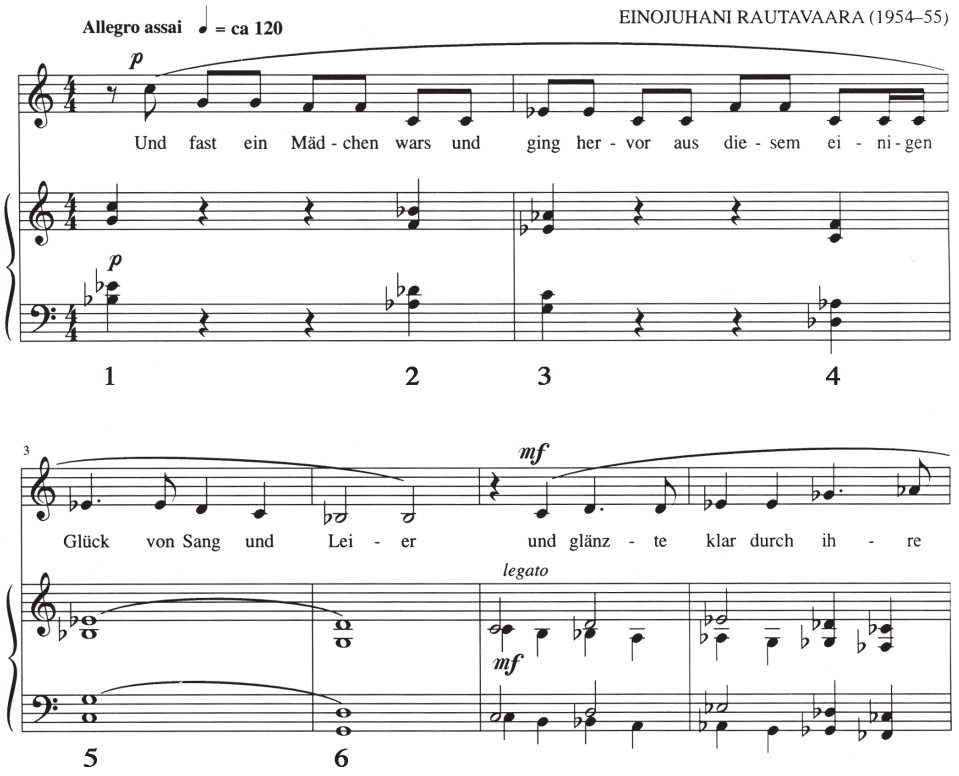
the Harmonic Circle, as tritone relations always are (Example 3.5b).[6] The song is in ABA form and the tone material of the middle section is is predominantly octatonic. The *piano* dynamics of the middle section creates a contrast with the weighty outer sections.

The contrast between descending and ascending motion also gives tension to the second song of the cycle. *Und fast ein Mädchen wars* begins with both the melody and accompaniment descending (Example 3.6a). The melody reaches its lowest point of the whole song in measure 4, and it is repeated only at the very end of the song as the final note of the melody. The chords of the piano could be interpreted as minor seventh chords or added sixth chords; in any case, they occupy continuous segments of the Harmonic Circle. The harmonies of measures 1–4 are traced on the Circle in Example 3.6b.

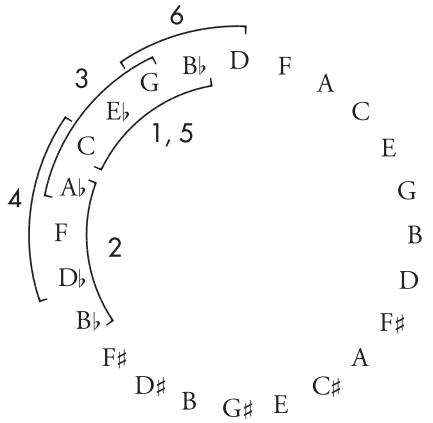
The most dramatic moment of *Und fast ein Mädchen wars* occurs roughly halfway through the song. In the poem, the narrator remembers the girl as if in a dream, and the dream is depicted in the middle section of Rautavaara's song. In these measures, the more lively rhythms of the surrounding sections give way to tranquil, bell-like sonorities in quiet tones, and the sudden shift from E minor to the E♭ major in measures 26–28 seems to shift the outlook of the whole song (Example 3.7a). This harmonic motion is directed to a chord that is physically close, with parsimonious motion of semitonal inflections in two of the voices, but at the same time, the two chords are tonally quite distant. The distance between the two chords is illustrated in Example 3.7b by tracking them on the Harmonic Circle. The voice remains on the G, while the harmonic foundation underneath it shifts. In neo-Riemannian terms, this shift is brought about by operation S, where the third of a triad is retained while the root and fifth are transposed by a semitone each. This sudden, eerie event is like an awakening from the dream of the preceding measures; after this, the music picks up speed once more. In a way, everything changes after the awakening; the narrator is more assertive, more certain of himself. And Rautavaara's music is very sensitive to these dynamic qualities of the poem. The assertiveness of the continuation is further enhanced by the recurrence of the initial motive of *Da stieg ein Baum*, the preceding song, right after the passage of Example 3.7a, in measure 29.

The song ends in a coda that is reminiscent of the opening phrase and is harmonically a condensed version of it (Example 3.8a). The bass line of the final cadence outlines a tritone, but the harmonic motion is not as drastic as the bass line might sug-

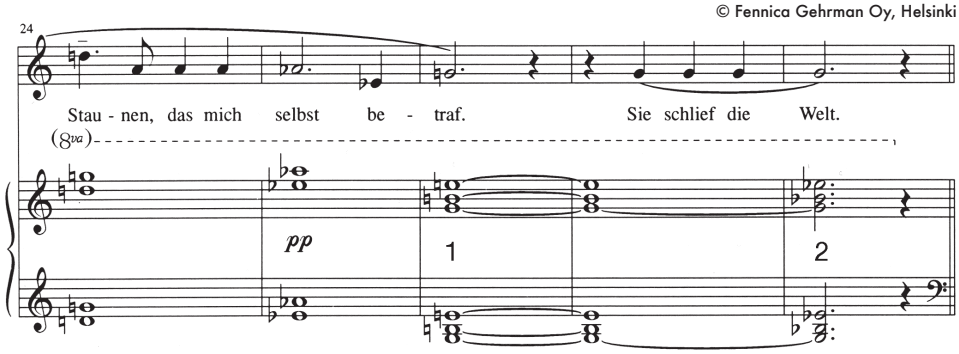
6. Some of the chords occasionally have major and minor thirds sounding concurrently, giving the flavor of major/minor triads, but the overall harmonic motion occurs between the two main chords indicated in Example 3.5b.



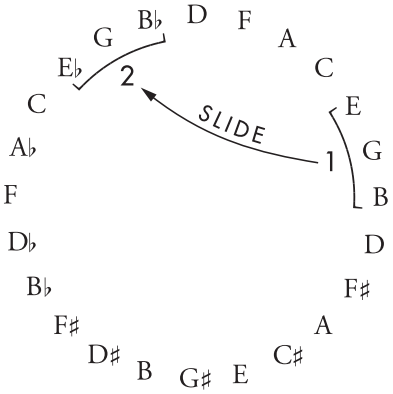
Example 3.6a. Fünf Sonette an Orpheus 2: Und fast ein Mädchen wars, mm. 1–6.



Example 3.6b. The chords of mm. 1–4 on the Harmonic Circle.



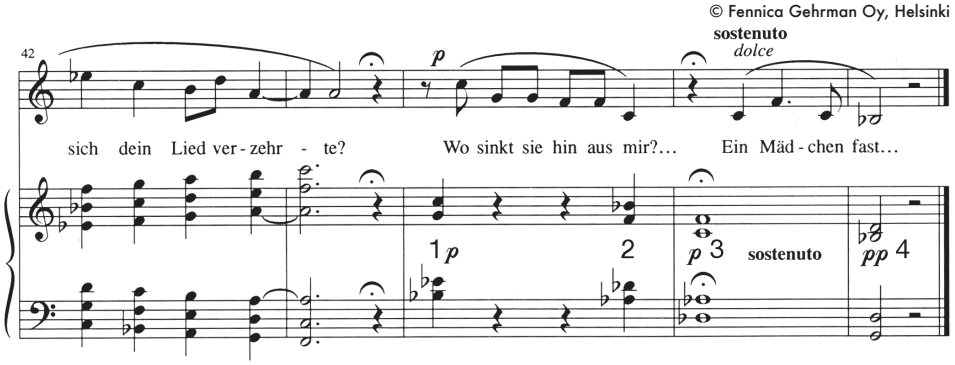
Example 3.7a. Fünf Sonette an Orpheus 2: Und fast ein Mädchen wars, mm. 24–28.



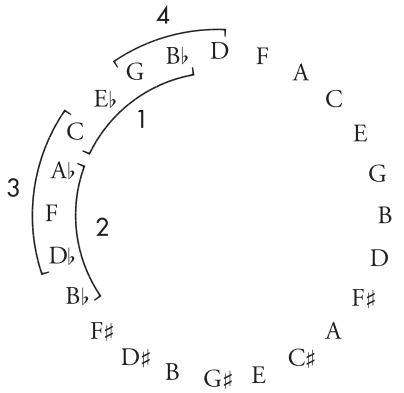
Example 3.7b. The chords of mm. 27–28 on the Harmonic Circle.

gest. On the Harmonic Circle, the two chords are quite close to each other, marked as 3 and 4 in Example 3.8b, and also remain close to the harmonic space outlined by the chords marked 1 and 2. These two chords, inverted C minor seventh and B♭ minor seventh chords, are also the two first chords in the beginning of the song and thereby create the harmonic context for the whole song. If chords 3 and 4 were in the same mode—i.e., both major or minor chords—they would lie on opposite sides of the Circle and would produce much more harmonic tension as a tritone pole. Note also how the ascending and descending tendencies, present throughout the song, have been combined in the piano textures before the coda, as the chords in the pianist's hands move in contrary motion.

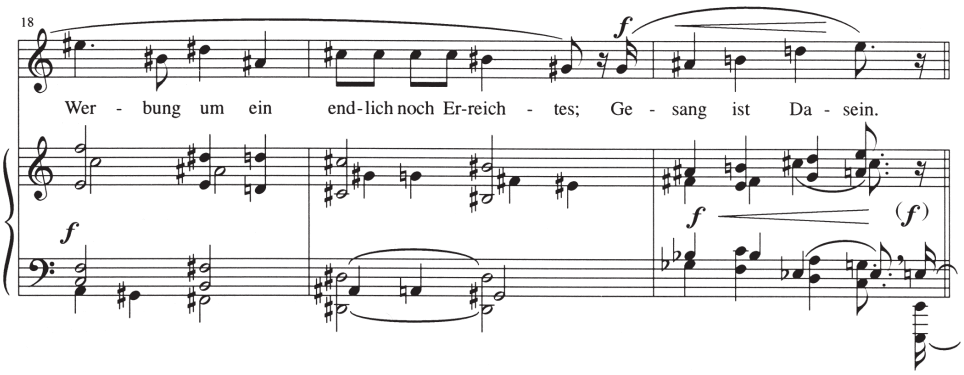
The third song, *Ein Gott vermags*, like *Und fast ein Mädchen wars*, has thematic links to *Da stieg ein Baum*; the melody in measure 18 refers to measure 4 of the first song (see Example 3.9; cf. Example 3.5). In the preceding measures of *Ein Gott vermags*, the stepwise motions in the piano accompaniment also recall similar textures in *Und fast ein Mädchen wars*. (cf. Example 3.6a, measures 5–6). By using these kinds of devices, Rautavaara creates unity to the song cycle and ties the songs together.



Example 3.8a. Fünf Sonette an Orpheus 2: Und fast ein Mädchen wars, mm. 42–46.



Example 3.8b. The chords of mm. 44–46 on the Harmonic Circle.



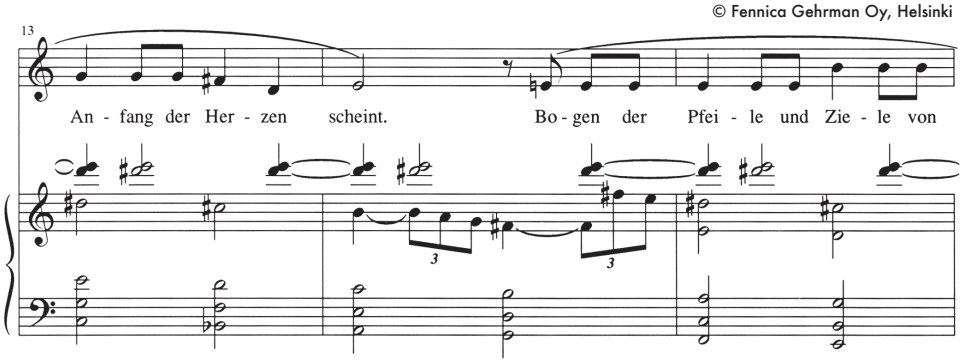
Example 3.9. Fünf Sonette an Orpheus 3: Ein Gott vermags, mm. 18–20.

Ein Gott vermags occupies a central position in the cycle and is somewhat self-referential; it is a song about singing. According to the text, the way to follow Orpheus's divine music is to lose self-consciousness about singing; the central message is "Gesang ist Dasein." (To sing is to exist.) This stanza is at the very core of Rautavaara's setting; it occurs roughly halfway through the five-song cycle and its importance is underlined by the clockwork-like symmetrical precision that suddenly appears in the piano accompaniment under it (Example 3.9). Although Rautavaara often wrote symmetrical passages, symmetry is not a salient feature in *Fünf Sonette an Orpheus*—there are passages where the voices in the accompaniment move in contrary motion, but usually not in strict symmetrical voice-leading (cf. Example 3.8, mm. 42–43). However, in this central stanza of the whole cycle, the piano accompaniment suddenly snaps to symmetrical voice leading, with D as the axis of symmetry. The fact that symmetrical writing suddenly appears in the middle of the third song of a collection of five songs is significant—it marks the middle of the whole piece. It thus stresses an Orphic credo that is apposite for the whole composition: "Gesang ist Dasein." The coda of the song again contains inverted seventh chords in tritone relations, similar to those at the beginning of *Da stieg ein Baum* (cf. Example 3.5).

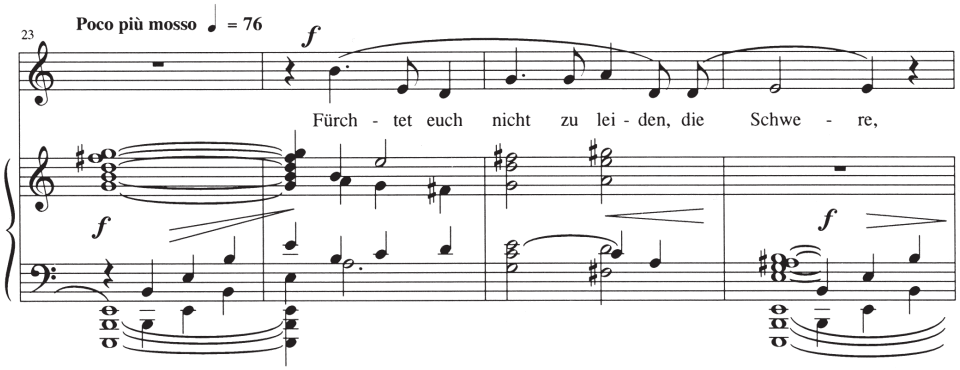
Intra-opus relationships continue in the fourth song, *O ihr Zärtlichen*. Again, most of the song proceeds in descending lines. The song begins with a chromatically descending line against an E pedal point in the piano accompaniment. As the song proceeds, the harmonies become increasingly thicker; in the first half of the song, they are generally tertian with added tones. However, only occasionally are they found on the Harmonic Circle with any analytical ease, because the added tones often create more irregular harmonies than the steady alternation of major and minor thirds that the Harmonic Circle offers. There are, for instance, major/minor chords (as in measures 13 and 15 of Example 3.10) and added-sixth chords. Example 3.10 shows the all-pervading descending lines of the first half of the song. The unstable harmonies and multi-layered descending lines give the first half of the song a mournful quality.

In the second half of *O ihr Zärtlichen* (mm. 23–55), the harmonies become increasingly stable. A resounding ninth chord begins the section in measure 23 and the following two measures remain in the same harmonic area (Example 3.11).[7] But this proves to be merely a precursor to the real climax of the song, because after this, harmonies again become more unstable. In Rilke's poem, the text encourages the listener not to be afraid of suffering and heaviness. To illustrate this sentiment, Rautavaara reverts the direction of the heretofore descending harmonic motion. The

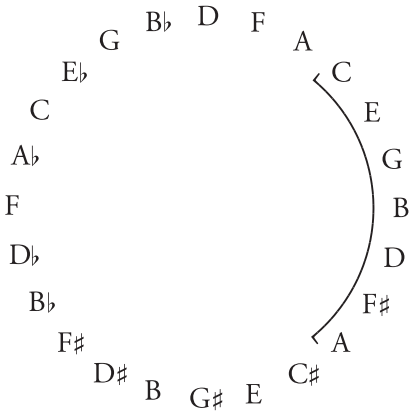
7. The G♯ in the second half of m. 25 is an exception: it already breaks out of the harmony with its ascending whole-tone motion.



Example 3.10. Fünf Sonette an Orpheus 4: O ihr Zärtlichen, mm. 13–15.



Example 3.11a. Fünf Sonette an Orpheus 4: O ihr Zärtlichen, mm. 23–26.



Example 3.11b. The pitch-class content of mm. 23–25 on the Harmonic Circle (see footnote 7).

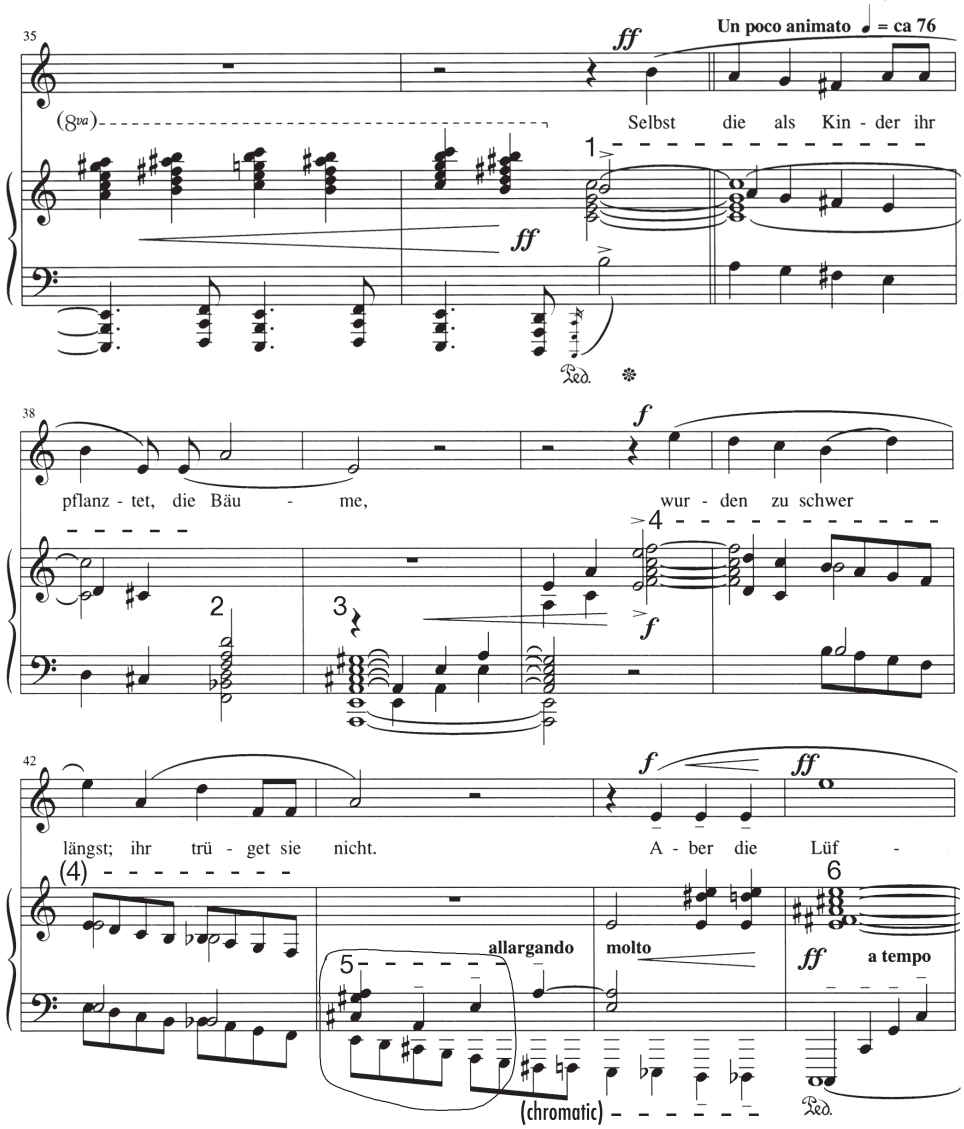
words “schwer sind die Berge, schwer sind die Meere” (“heavy are the mountains, heavy are the seas”) are countered with parallel major seventh chords ascending to high registers. The contrast between the content of the poem (heaviness) and of the music (ascending motion) gives the impression of the narrator conquering the weight of the elements, however heavy they might be. These parallel seventh chords can be traced on the Harmonic Circle only intermittently, since they vary in terms of interval content. Major triads with major sevenths can easily be found in the Circle, as can minor triads with minor sevenths (this is because they have uniform alternation of major and minor thirds), but major triads with minor sevenths and minor triads with major sevenths cannot. Therefore, even this chain of parallel seventh chords is still harmonically relatively unstable.

The high point of the song, both in terms of dynamics (*ff*) and in terms of harmonic stability, occurs in measures 36–45, where chords move around the Harmonic Circle and create distinct segments (see Example 3.12). The dynamic motions to different sides of the Circle are remarkably energetic and assured in contrast to the rather unstable and varying harmonic motions before them. It is as if in these measures, the music comes into focus after extended periods of uncertainty. Remarkably, the motion comes to rest in measure 45 on a chord that combines C major and F♯ major triads, thereby creating a tritonal pole at the end of this climactic section of the song. After this, descending motions resume and in the coda (mm. 48–55) the parallel major seventh chords (which were previously heard in mm. 31–36 in constant ascent) are also heard in descending motion.

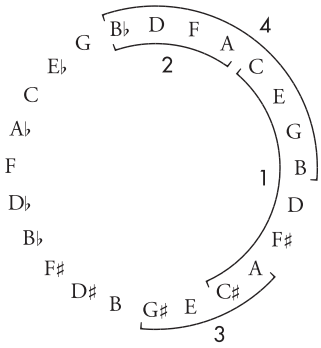
The overall harmonic structure of *O ihr Zärtlichen*, then, contains a process of coming into focus and blurring again after the climactic section. The following table lists the salient features of the song. The climactic section is labeled B^1, where harmonic motion becomes more focused than before.

section	m.	main features	direction of motion	dynamics
A	1-22	chromatic motion against pedal point	descending	mezzopiano
B	23–30	increased harmonic stability, strong gestures	ascending	forte
C	31–36	parallel seventh chords	ascending	piano
B^1	36–47	assured harmonic motion, strong gestures	ascending	fortissimo
C^1	48–55	coda, parallel seventh chords	descending	pianissimo

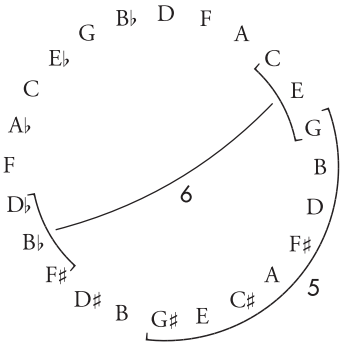
Rautavaara conceived the final song *Errichtet keinen Denkstein* as an epilogue to *Fünf Sonette an Orpheu*s (Nikula 2005, 157). Its character is calm, befitting an epilogue, and its resigned tone helps to soothe the dynamic nature of the preceding songs,



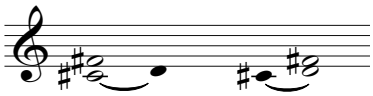
Example 3.12a. Fünf Sonette an Orpheus 4: O ihr Zärtlichen, mm. 35–45.



Example 3.12b (l). Harmonies of mm. 36–42 on the Harmonic Circle.



Example 3.12c (r). Harmonies of mm. 43–45 on the Harmonic Circle.



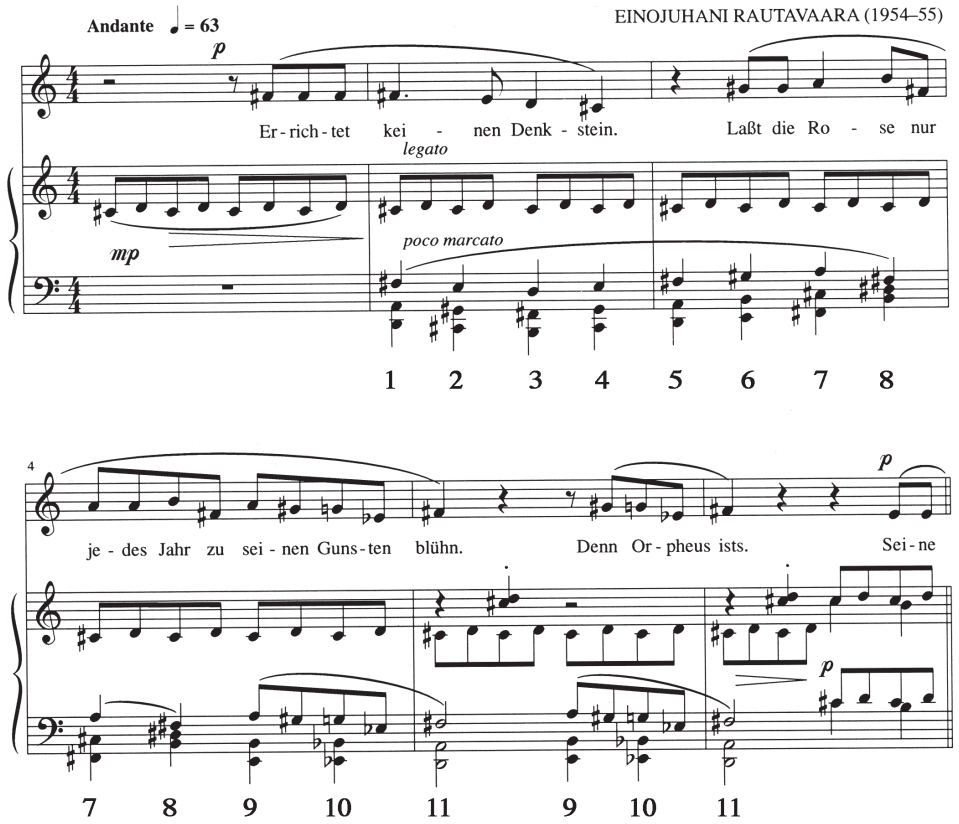
Example 3.13. Different interpretations for the initial harmony of Errichtet keinen Denkstein.

particularly *O ihr Zärtlichen*. The form of the song is a straightforward ABA[1] (A: mm. 1–10; B: mm. 11–17; A[1]: mm. 18–31). The calmness of the song is further enhanced by a constant eighth-note motion that alternates between C♯ and D in the A sections. When the stream of eighth-notes moves away from C♯ and D in the B section, the music also becomes more dynamic. In the A sections, the semitonal motion is ambiguous, since it is not clear which of the two tones is more structural and which embellishes the other. In measure 1, the voice sings F♯ while the piano accompaniment consists exclusively of alternation between C♯ and D. The F♯ could be paired with C♯, which would then imply a F♯ major or minor harmony, or with D, which would imply a D major harmony (Example 3.13). Measure 2 shows the latter to be the case, at least initially, as bass line support suggests a D major harmony on the downbeat (see Example 3.14).

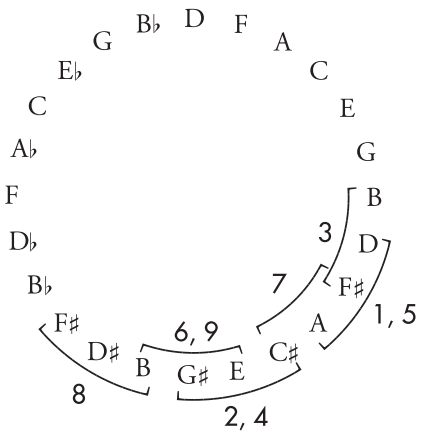
For the most part, the harmonic motion in the song is quite smooth, as consecutive harmonies are relatively close to each other and move in a stepwise motion. Because of this smoothness of stepwise harmonic motion, chromaticism and more dynamic chord passages stand out. Example 3.14a shows the beginning of the song. The chords in measures 2–6 are labeled with ordinal numbers; Examples 3.14b and 3.14c show the corresponding chords on the Harmonic Circle. The stepwise motion occurs in chords with ordinal numbers 1–7, and as Example 3.14b indicates, all these chords can be found relatively close to each other on the Harmonic Circle and therefore create a harmonic area. After this, however, more dynamic motions occur.

The resolution in favor of a D-based harmony on the downbeat of measure 2 is called into question when we get to chord 7 of Example 3.14—an F♯ minor chord that begins to oscillate back and forth with a B major triad (chord 8) in measures 3 and 4. Because the initial ambiguity between harmonies based on D and F♯ has already been introduced to the listener, it is likely that the F♯ minor chord is heard as more stable, and that the B major embellishes it, possibly in a quasi-subdominant fashion. The likelihood for this interpretation is enhanced when we consider that the F♯ minor lies at the center of the harmonic area created by all other chords that have thus far been heard (see chords 1–7 in Example 3.14b), whereas the B minor departs from that harmonic area (see chord 8 in the same example).

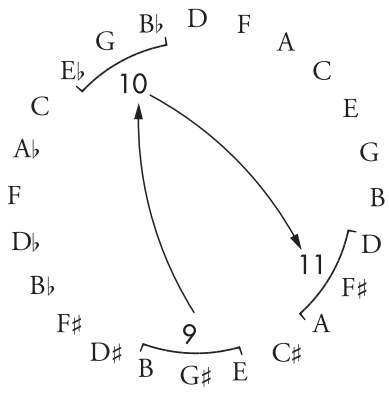
EINOJUHANI RAUTAVAARA (1954–55)



Example 3.14a. Fünf Sonette an Orpheus 5: Errichtet keinen Denkstein, mm. 1–6.



Example 3.14b. The chords in mm. 2–4 on the Harmonic Circle.



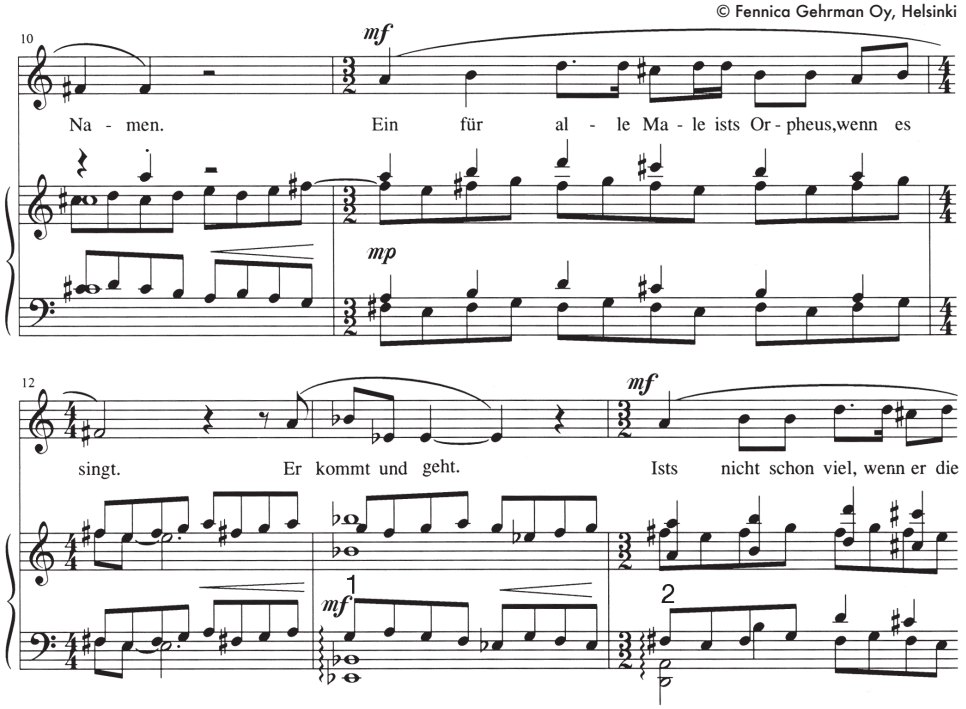
Example 3.14c. The chords in mm. 4–6 on the Harmonic Circle.

If the chord based on B were a minor triad, the two chords would be found on consecutive, slightly overlapping segments of the Harmonic Circle (chords 7 and 3 in Example 3.14b). As it is, however, moving from F♯ minor to B major requires slightly more energy, as the motion carries over several steps on the Harmonic Circle. But even more dynamic is the chromatic motion from the E major chord via E♭ major to D major that occurs in measures 4–6, on chords with ordinal numbers 9–11 in Example 3.14.[8] The chromaticism carries the E♭ major chord to the other side of the Circle, as shown in Example 3.14c. From there, the music returns to D major on chord number 11, which is also the same chord as the very first triad of the song in measure 2. The motion tracked in Example 3.14c can be heard as a cadential gesture on a tritonal pole (à la Lendvai), even though the chords do not lie on exactly opposite sides of the Harmonic Circle.

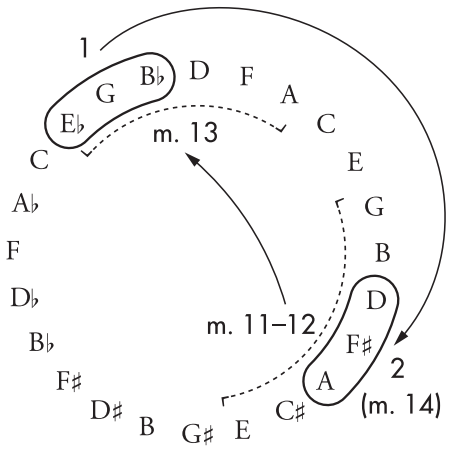
This cadential gesture becomes the main motif of section B in measures 11–17. Here it appears in a slightly altered guise. Example 3.15a shows measures 11–14 and Example 3.15b shows the music of those measures tracked on the Harmonic Circle. The dotted lines in Example 3.15b indicate the total pitch-class content of the measure in question. For instance, although in measure 11 no clear triadic harmonies arise from the constant eighth- and quarter-note motion, the harmonic area created by that motion is contained in the area indicated by the dotted line. The cadential gesture includes a departure from the D major/B minor harmony in measures 11–12 to the E♭ major chord in measure 13 and a return to the harmonic area of measures 11–12 in measure 14, now with a clear D major chord present in the bass register (indicated in Example 3.15 with a circle around the notes of the triad). The cadential gesture is repeated in measures 15–17.

In section A[1], the constant semitone motion between C♯ and D returns. The section is a slightly altered repetition of the A section, with its F♯ minor/B major oscillations and chromatic E-E♭-D cadence. At the end of the song, however, the ambiguity between D and F♯ harmonies (as discussed in connection with Example 3.13 above) is resolved in a new way. As Example 3.16 shows, in the final four measures of the song the music turns to F♯-based harmony after all, notably with no third present; the chord is formed by stacking fifths into an ambiguous F♯-C♯-G♯ chord in the final measure of the song—a new ambiguity to replace the initial one between D and F♯.

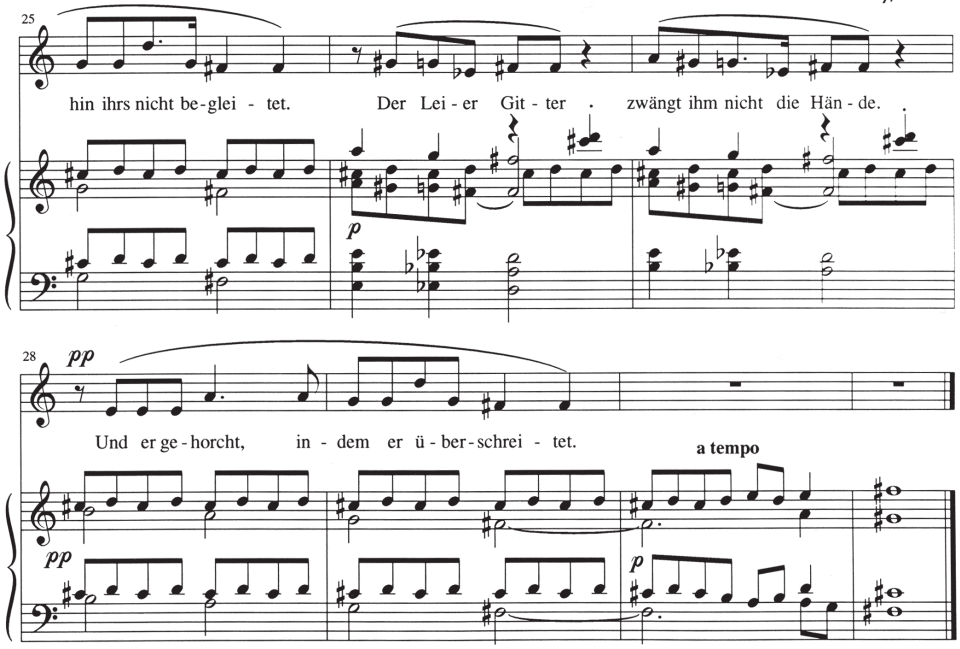
8. In chord 9, the G♯ is preferred as a structural note over the A, as it is supported by the E-B dyad in a triadic context. The A, therefore, is heard as an appogiatura to the G♯.



Example 3.15a. Fünf Sonette an Orpheus 5: Errichtet keinen Denkstein, mm. 10–14.



Example 3.15b. The chords in mm. 11–14 on the Harmonic Circle.



Example 3.16. Fünf Sonette an Orpheus 5: Errichtet keinen Denkstein, mm. 25–31.

4
Einojuhani Rautavaara's First Serial Period (1957–1962)

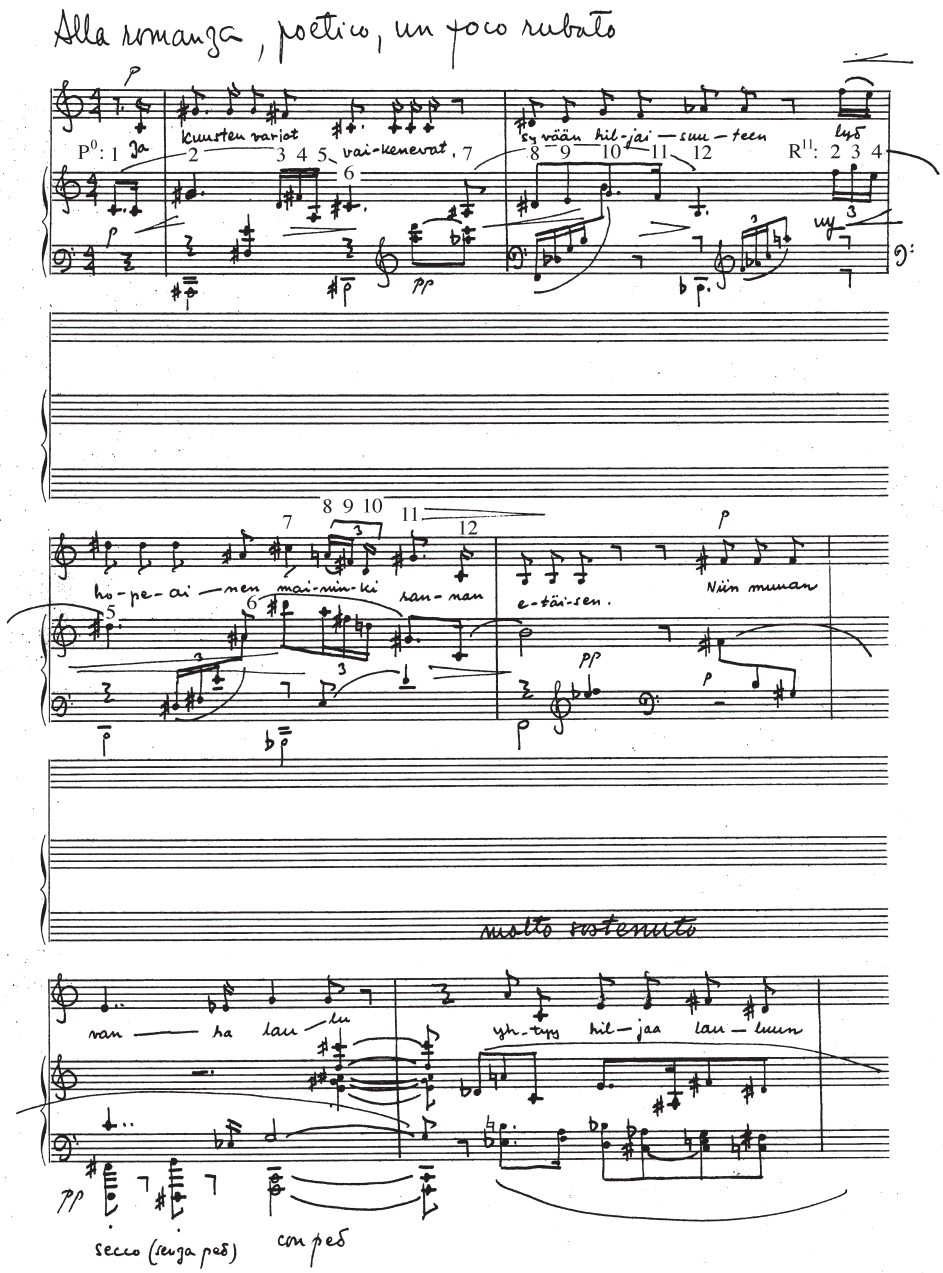
It seems that Rautavaara had an idea of how he would like his twelve-tone music to sound quite early on, and as he studied the technique, he found a way to merge serial techniques with tertian harmonies. Such harmonies remained at the core of his harmonic thought even in his first twelve-tone period. Quite soon he also learned to construct rows that appealed to his fondness of symmetry and motivic repetition.

4.1 Elegia: Rautavaara's First Serial Composition

Even before his trip to Switzerland, Rautavaara experimented with twelve-tone writing, apparently as an autodidact. His first twelve-tone composition was a song entitled *Elegia*; it was written by Rautavaara as one part of a four-song suite called *Hajoaminen* (Disintegration) to poems of Lassi Nummi. Rautavaara wrote three of the songs in December 1956—the completion dates marked on the manuscripts are 15 December (*Requiem* and *Déluge*) and 16 December (*Muotokuva,* Portrait). *Elegia* was completed approximately 6 weeks later on 30 January 1957, some two months before Rautavaara travelled to Ascona; he arrived there on 23 March, at least according to plan (Rautavaara [1957d]).

Elegia shows a rudimentary understanding of the twelve-tone technique. Rautavaara uses a twelve-tone row as a structural backbone of the music, without feeling the need to derive all sounding pitch-classes from it. The row unfolds in the right-hand melody of the piano, and even though the voice melody stems, for the most part, from the piano melody, it does not follow it rigorously. The left-hand part of the piano is more freely composed. This is a method that Rautavaara would use extensively in his later twelve-tone pieces; he would use the series in the background of the music, as a structural framework, but would work out the foreground events more linearly, deriving them from the series but deviating from it to write more melodic passages. This happens, for instance, in *Die Liebenden* (1959; see Chapter 4.6) and Symphony No. 7 (1994–1995; see Chapter 8.2).

Example 4.1 shows the first six measures of *Elegia*, which in total consists of twelve measures. The twelve-tone row unfolds in the piano melody, first in its prime



Example 4.1. Elegia, mm. 1–6.

form in measures 1–2, then as a retrograde from the last eighth-note of measure 2 to the end of measure 3.[1] Notable is the D major triad that occurs on notes 3–5 of the prime series, as well as a F♯ minor triad on notes 4–6 and G7 (without the fifth) on notes 10–12. Notes 4–7 could also be construed as an F♯ major/minor chord; such chords are familiar to Rautavaara's music in many earlier pieces, such as *Fünf Sonette an Orpheus*, discussed in Chapter 3.3. Measures 4–6 show freer composition, although the F♯-B-G♯-C-E♭-G melody in measures 4–5 would seem to be a transposition of the first hexachord of the series (with B substituting for the D that would be the second note of the transposed series-form). Likewise, the C-E-A♯-F♯-D♯ melody in measure 6 is an inversion of the first five notes of the prime form. The remaining measures are a small-scale recapitulation of the beginning. At the end of the song, Rautavaara uses a transposition of the series in the same way as in the beginning; the prime form is immediately followed by the retrograde.

The three songs of *Hajoaminen* that were finished in December 1956 all show a similar focus on short gestures as do the *Seven Preludes for Piano*, composed shortly before *Hajoaminen*, even though Rautavaara does not seem to aim at the same sort of crystallization of ideas as in the piano pieces. Whereas the Preludes are characterized by asymmetrical whimsicality, the three non-serial songs of *Hajoaminen* are built on ostinato textures. The songs are constructed of very limited, concentrated motifs, whose constant recurrences give the songs a static disposition. The fourth, *Elegia*, on the other hand, is more expansive than any of the other three songs of the collection even though it is still a relatively short piece. The twelve-tone row provides the song with a combination of unity and continuity, whereas the other three songs are quite strong on the former but less so on the latter.

Rautavaara had obtained a vague idea of the properties of twelve-tone composition already in the beginning of the decade from meetings of the Nykymusiikkiseura—the Finnish section of the International Society for Contemporary Music—but it was not until the winter of 1956–57 that he really became interested in it (Rautavaara 1989, 180). Twelve-tone composition, with its potential for devising a unified network of motifs while allowing for a great degree of diversity through the use of the basic permutations of the series, seemed to be a promising method for a composer seeking to construct coherent continuums in music. Rautavaara learned some details of the technique from his older Finnish colleague Erik Bergman (1911–2006). Bergman became his friend at this time through professional contacts and through

1. The discrepancy between the vocal melody and the corresponding note in the pianist's right hand in measure 3 seems to arise from a missing ledger line in the piano part. It would seem logical that the note in question, note 7 of the retrograde, is performed in unison as C♯ instead of as a semitone between the singer's C♯ and the pianist's B♯.

Rautavaara's cousin, the singer Aulikki Rautawaara (1906–1990), whom Bergman had married in the summer of 1956 (ibid.).

4.2 Modificata: An Application of a Symmetrical All-Interval Series

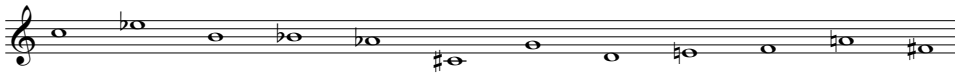
In January 1957 Rautavaara began a new composition that was to become known as *Modificata*. Although *Modificata* is an orchestral piece, he wrote its initial version as a string quartet. That version was begun already in Helsinki; its finale, *Allegretto ma risoluto*, was dated January in Helsinki. That movement would later be recomposed as the finale of *Modificata* and given the title *Affectio*.

Both *Affectio* and the middle movement of *Modificata*, *Meditatio*, are not serial. In its original string quartet guise, *Meditatio* was titled *Largo elegiaco*, and its manuscript bears the date inscription "Ascona maalisk/57" (Ascona March/57). Given that Rautavaara in all probability only arrived in Ascona on March 23, he did not have many days to compose the movement—and so it can be assumed that he did at least some of the composing already prior to his arrival in Ascona (Rautavaara [1957d]).

The string quartet has four movements; *Modificata* has three. In 2003, Rautavaara chose to revise *Modificata* once more: he replaced *Recitatio* with *Prævariata*, a multi-serial orchestral work which he had originally composed after he visited Darmstadt when returning to Finland from his studies with Vogel in the summer of 1957 (See Chapter 4.4). Prior to 2003, *Prævariata* was considered an independent composition, although Rautavaara did use it as the second movement of his fourth symphony—that is, the original work to bear this title, of which Rautavaara wrote two versions in the 1960s but ended up withdrawing. In its final guise, then, *Modificata* consists of three movements: *Prævariata*, *Meditatio*, and *Affectio*. The following table traces the different versions of the music:

String Quartet (1957)		**Modificata (1957)**		**Modificata (2003)**
Introduzione. Lento [April 1957]		[not included]		[not included]
Moderato. Recitando ma rigoroso [May 1957]	→	Recitatio		[replaced by *Prævariata*]
Largo elegiaco [March 1957]	→	Meditatio	→	Meditatio
Allegretto risoluto [January 1957]	→	Affectio	→	Affectio

The first movement of the quartet, *Introduzione*, is inscribed "Ascona huhtik/57" (Ascona April/57). It is followed by *Moderato* ("Ascona toukok 57" [Ascona May 57]). Rautavaara discarded the *Introduzione* from the orchestral *Modificata* and converted



Example 4.2. The series of Recitatio.

the *Moderato* into the first movement of *Modificata* with the title *Recitatio*. As mentioned above, *Largo elegiaco* was dated in Ascona in March 1957 and *Allegretto risoluto* in Helsinki in January 1957.

Sivuoja-Gunaratnam (1997, 47) notes that *Recitatio* is the only movement of *Modificata* that is serial. The string quartet version in fact has two serial movements; the *Introduzione* (the first twelve-tone piece that Rautavaara wrote under Vogel's guidance in April) and *Moderato* (the second one, in May). But as the *Introduzione* was cut from *Modificata*, *Recitatio* does remain the only serial movement of the orchestral version of 1957. The series of *Recitatio*, no doubt constructed by Rautavaara under Vogel's supervision, contains no overt tonal allusions, but rather has a uniform interval content <222221> that tends to de-emphasize any particular interval (see Example 4.2). If the series did have an abundance of major or minor thirds (interval classes 4 and 3, respectively), triadic allusions would more readily emerge. No doubt this kind of series was taught to Rautavaara by Vogel quite early in his studies as an example of a special class of twelve-tone rows; as the interval content indicates, it is an all-interval row—one where all interval classes are present. Later, Rautavaara would gravitate towards rows that have more distinctive interval contents. But the series of *Recitatio* does show a serial property that Rautavaara would soon use extensively: the twelve-tone series of the movement is R-symmetrical; that is, each of the series-forms is identical to a transposed form of itself when this transposed form is read in retrograde, from the last note to the first.

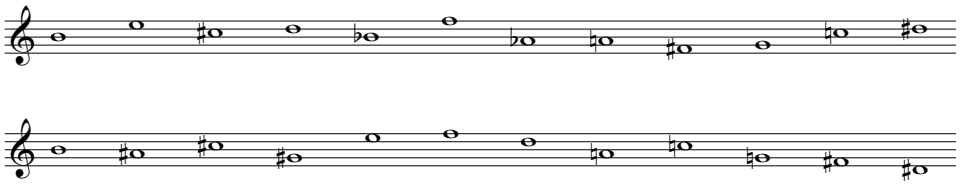
Modificata is clearly a student composition and Rautavaara himself later viewed it as such (Sivuoja-Gunaratnam 1997, 47–48; Rautavaara 2006c). The orchestration tends to create stark dynamic contrasts, but this seems almost like an over-compensation for the rather unfocused atonality of the piece. This is symptomatic of the basic materials that Rautavaara uses—he takes different materials for each of the three movements. Sivuoja-Gunaratnam (1997, 48) has identified some unifying devices that Rautavaara used to unify the music of *Modificata*. These include (1) the opening melodic figure of *Recitatio*, a motif that recurs throughout the composition, and (2) a trill/tremolo gesture that is prevalent in *Recitatio* and *Meditatio* but is absent from *Affectio*.

4.3 Ave Maria: A Classic Twelve-Tone Application

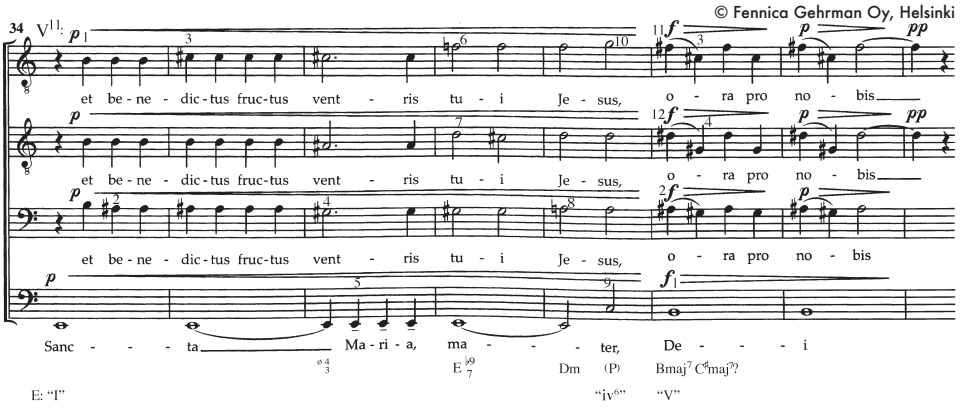
In contrast to *Modificata*, a more focused composition technique is shown in *Ave Maria*, a 3-minute composition for male choir, finished in Ascona by June 19, 1957 (Bergman 1957). By the beginning of June, Rautavaara had had 2 months of training in twelve-tone composition and this is demonstrated in the choral piece. Significantly, it shows Rautavaara's first application of the prime series contrasted with its fifth series (see Example 4.3). In *Ave Maria*, the homogeneous timbre of the male choir tends to de-emphasize the contrasting characteristics of the prime series and the fifth series, even though Rautavaara does use the two series-forms in distinct sections of the piece. The overall mood of *Ave Maria* is serene, due to the latin text and Rautavaara's steady rhythmic treatment. The piece is a precursor to many of his later serial compositions with its mildly dissonant chromaticism that alludes to triadic tonality. Even in this early twelve-tone composition, Rautavaara exhibits the kind of ease and elegance in using the method that is a feature of many of his best subsequent serial works. Example 4.4 illustrates a case in point. Here, the E pedal point in the basses provides a foundation for triadic implications in the harmony, starting with the open fifth E-B in measures 34–35, moving through the inverted half-diminished seventh chord in measure 36, the ninth chord in measure 37, and the D minor triad to the added-note (or major seventh) chords in measures 39–41 (the quartal C-A-D-G chord in measure 38 is heard as a passing chord between the surrounding D minor and B major chords).

Also noteworthy is Rautavaara's ease in combining harmonic and melodic elements in twelve-tone writing. As can be seen from Example 4.4, he does not merely cycle through the series, but allows the tones to form harmonies via repetitions—as an example, see the evolution of the harmony through the sustained B, A♯, and C♯ pitches over the E pedal point in measures 34–35. Moreover, the E in those two measures is a residual tone from a previous series-form; it appears in measure 33 as the eleventh note of the Quartenreihe IV^{11}, which is used in measures 29–33. But when the E arrives as the fifth note of the current series V^{11} in measure 36, Rautavaara writes legato accents to give the tone (and the "Maria" of the text) a slight emphasis.

The bass line also suggests a tonal interpretation for the passage, even though there are no traditional tonal functions in the harmony. The E becomes a stable, tonic-like foundation for the passage, and moves in measure 39 to B. What gives this passage a tonal flavor is the note C in the latter half of measure 38, an intermediary step on the way from E to B. The bass line E-C-B could then be heard as a Phrygian cadence from tonic to dominant via an inverted subdominant iv^6. There are even



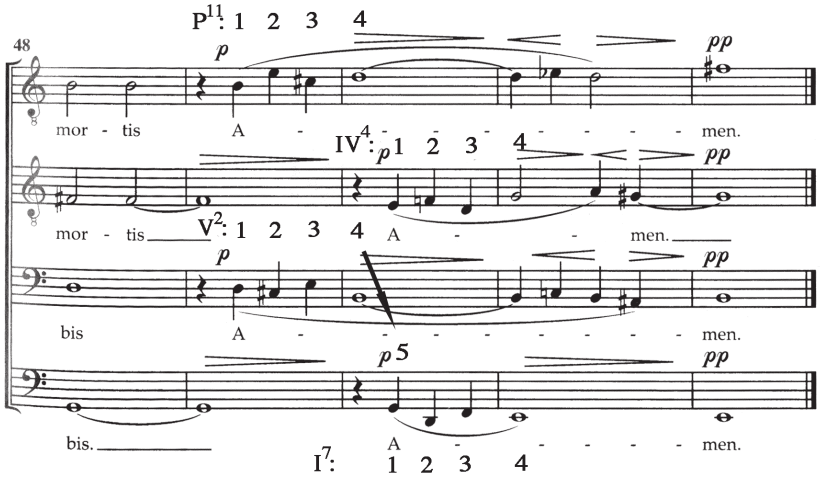
Example 4.3. The prime and fifth series of Ave Maria.



Example 4.4. Ave Maria, mm. 34–40.

hints in the harmony, while not strictly tonal, to support this interpretation. The harmonies in measures 34–37 seem to hover around the "tonic" E, with an open E-B fifth in the beginning, through a half-diminished seventh chord to an E ninth chord, before descending through a D minor chord (still over the pedal point) and the "iv^6" chord to the "dominant" B major seventh on the downbeat of measure 39. Granted, the consecutive seventh and ninth chords do tend to give the E-based harmony in measures 36–37 something of a dominant feel, but this is very likely forgotten as soon as the strong allusion to an augmented sixth chord in measure 38 appears. Even though the chord over the bass note C is not a triad, the strong bass line with its tonal implications will most likely guide the listener's perceptions, aided by the C-A dyad in the bass voices, implying the third and the root of an iv^6 chord.

The duration of *Ave Maria* is slightly over three minutes. As such, then, it is not a very extensive piece of music and does not offer enough evidence of whether Rautavaara was able to create longer stretches of music with serial techniques. But what we can say is that it is the first of Rautavaara's compositions that makes use of the contrast between the prime series and the fifth series. He begins the piece with the prime series and uses it for the first verse. For the second verse, he shifts to the fifth series and uses that for most of the remainder of the piece. The final four measures (49–52) function as a coda, and there Rautavaara combines different orderings of the set. In



Example 4.5. Ave Maria, mm. 48–52.

measures 49–50, he uses the first four notes of the prime series and the first four notes of the fifth series on top of each other in different voices and in measures 50–51 he uses their inversions in a similar manner, superimposed on each other (Example 4.5).[2]

This is significant because here Rautavaara is using for the first time the different series-forms for contrast. The prime series forms the basis of the piece and supplies the main theme in measure 1. Later, to introduce contrast, Rautavaara turns to the fifth series, as a sort of secondary theme; in the end he fuses the two together, with the initial four-note motif again at the top of the texture in the melody.

One can also see a clear precedent to this procedure—using different series-forms in different sections—already in Rautavaara's first twelve-tone composition, *Elegia*, written very likely before he knew how to derive a fifth series. In *Elegia*, Rautavaara merely deviates from the prime series before returning to it in the end. Rautavaara later also used the same strategy, for example in *Liebes-Lied*, where sections of quite regulated twelve-tone writing flank a more freely conceived middle section (see Chapter 4.6).

2. The events of the last two measures are not easily tracked to serial procedures, since the prime and fifth series do not contain the stepwise motion of the first basses or even the D–E♭–F♯ motion of the first tenors. They are more likely perceived as embellishing motions; the E♭ in the first tenors acts as a neighboring tone to the D, and this motion is echoed in the G–A–G♯ motion in the second tenors. The first basses' B–C–B–A♯–B embellishes the B in double neighboring motions, while the second basses provide a stable foundation with sustained E pitches. The final chord, E–B–G♯–F♯, sounds as an added-ninth chord, or E^{add9}.

4.4 Prævariata: Triadic Transformations of the Series

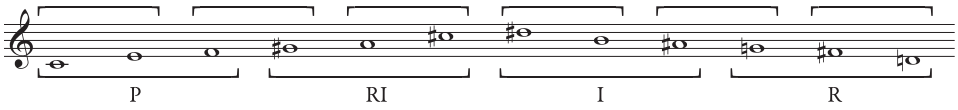
Rautavaara recalled that on his way back home to Helsinki from Ascona in the summer of 1957, he stopped for a while in Darmstadt for the ISCM, or the International Summer Courses for New Music (Rautavaara 1989, 194–195; 2006d; 2006e). Throughout the 1950s, integral serialism had been gaining a stronger foothold in musical modernism—of which Darmstadt was an important center. Of serialist composers, at least Karlheinz Stockhausen, Luigi Nono, and Bruno Maderna were at Darmstadt in 1957, and it is possible that Rautavaara managed to meet at least some of them during his short visit (Mayer-Vogt 2006). It is not really important to know whether he did, in fact, meet any of the renowned serialists; integral serialism was in the air, and Rautavaara breathed it in.

It was at this time that he started work on *Prævariata*, his first venture into the technique. *Prævariata* presents an important stage in Rautavaara's quest for musical continuums, since the 7-minute piece holds together rhythmically by virtue of a unified metrical variation technique and harmonically by the use of Rautavaara's newly acquired twelve-tone skills. The pieces that Rautavaara had worked on in Ascona—*Modificata*, *Ave Maria*, and the speech choir work *Ludus verbalis*—did not yet yield the results that Rautavaara had hoped to attain by studying the twelve-tone technique. *Modificata* ended up as a somewhat bland and impersonal composition and was not really satisfactory with respect to long-range continuity. *Ave Maria* and *Ludus verbalis* were rather short pieces and thus did not even aim at long dramatic ranges but were more like studies in their respective techniques: "classic" twelve-tone composition and speech choir.

Rautavaara wrote to Vogel:

> The new orchestra piece is now called "Prevariata" (<Musica Prævariata)—it seems to me that this name highlights both of the important aspects of the piece: namely that its music is made of (twelve-tone-)variations, and that the material is controlled "beforehand" with rhythmic rows etc—before the actual composing. Currently I find this way of composing very interesting as a working method, and I am also trying to use it in a piano piece (although without a rhythmic row). (Rautavaara 1957e.)[3]

3. "Das neue Orchesterstück heisst jetzt 'Prevariata' (< Musica Prævariata) – es scheint mir dass dieser Name die beide wichtige Eigenschaften des Verkes herausbrigt: nämlich dass die Musik aus (Zwölfton-) Variationen besteht und dass das Material 'im voraus' mit rytmische Reihen etc genau bestimmt ist – vor dem eigentlichen kompositionsakt. Dieses Verfahren is mir jetzt sehr interessant, als eine Arbeitsmethode, und ich versuche es au im klaviesrstück (aber ohne rytmische Reihen)."



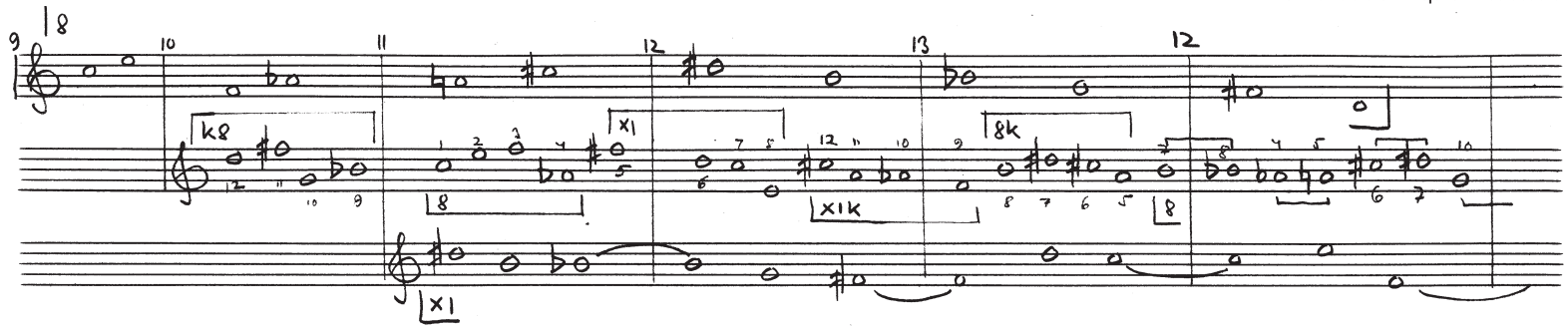
Example 4.6. The series of Prævariata.

In his autobiography (1989, 195), Rautavaara writes that Vogel was not particularly delighted with this method of composition; Vogel was of the opinion that the foreground variance of music should be determined during the actual composition process, not before it, as Rautavaara's method suggested. But this method did yield satisfying results for Rautavaara, as *Prævariata* is a great step forward in his pursuit of musical continuity.

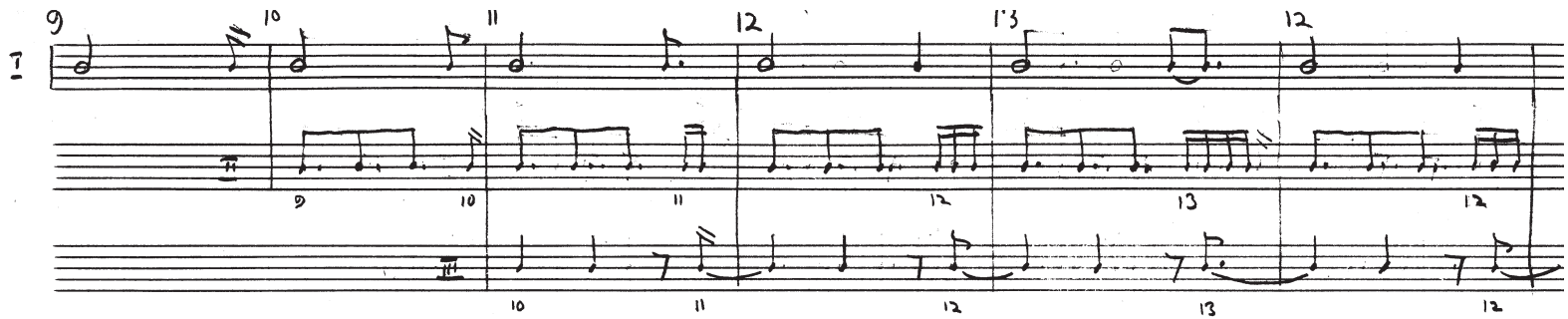
Prævariata achieves this by virtue of several factors. The piece is built upon a relatively invariant metric grid, which provides a stable foundation for the serial variations in the foreground. This metric grid is constructed of a series of measures that have a regular pattern of increase and decrease of duration. Hence, the first measure of the sequence is in 9/16, the second, in 10/16, the third, in 11/16, and so on. The durations of the measures oscillate between 9/16 and 13/16, thus producing a steady pattern of ebb and flow, which, while being quite stable, still provides enough variance to retain the listener's interest.

Rautavaara possibly modeled the structure after a similar passage of incrementing and decrementing durations in the first movement of the Second Symphony, even though it had not yet been performed at the time of *Prævariata's* composition. But the same passage had been performed as a part of the *Seven Preludes* for piano, and Rautavaara is certain to have had in mind the eccentric, irregular character that it brings to music.

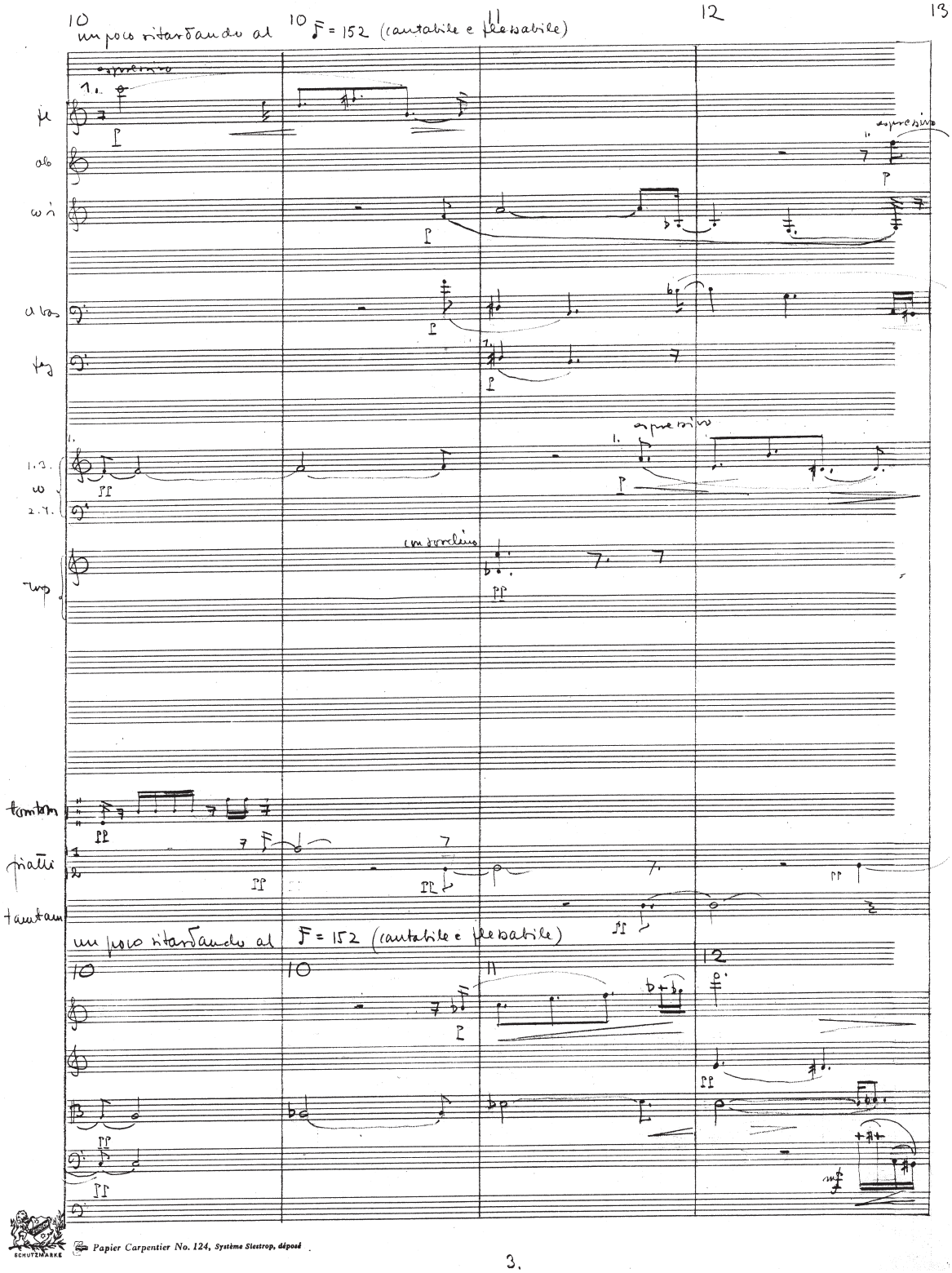
Besides in the metrical grid, Rautavaara succeeds in combining variety and coherence in the way he uses the twelve-tone series to control the pitch material. He constructs the series from six pairs of thirds (minor and major; interval classes 3 and 4), consecutive thirds being linked by the interval of a second (mostly minor seconds, interval class 1; with one instance of a major second, interval class 2, which links the two hexachords of the series). The uniformity of the series highlights its smallest ingredients, so that the emphasis is not really on the twelve-tone total of the series but on the smaller motifs of alternating thirds and seconds that occur constantly as the series unfolds. The very uniformity of the series generates remarkable coherence to music that is composed with it. It is also a derived series; it is made up of a single trichord that generates the remaining three trichords (Example 4.6). In addition to the abundance of thirds in the linear progression of the series, the hexachords contain



Example 4.7a: Pitch-class "pre-variations" written by Rautavaara for measures 16–21 of Prævariata.



Example 4.7b: Rhythmic "pre-variations" written by Rautavaara for measures 16–21 of Prævariata.



Example 4.7c. Prævariata, measures 16–19. © The Estate of Einojuhani Rautavaara

hexatonic poles: notes 1, 3, and 5 create an F major chord, and notes 2, 4, and 6 its hexatonic pole, a C♯ chord. A similar relationship exists in the second hexachord between the G major and E♭ minor chords (the latter written enharmonically as a D♯ minor chord in Example 4.6).

It must be considered quite significant that in 1970, in the program notes for the second version of his Fourth Symphony (in which *Prævariata* was the second movement), Rautavaara cited the twelve-tone melody of the xylophone in the beginning, saying that its metamorphoses contain tonal elements that eventually led him to abandon twelve-tone writing and embrace neoromantic or even neo-tonal composing (Rautavaara 1970). The significance of this statement is made clear when we consider that the twelve-tone series in question was written already in 1957 as one of the first twelve-tone rows that Rautavaara ever wrote, and not very long after taking his first actual lessons of the technique. It is thus clear that even the very first twelve-tone rows that Rautavaara composed had within them seeds of the triadic harmonies—and hence, allusions to tonal practices—that would later become so central to his music, dodecaphonic or otherwise.

The tonal allusions arise primarily from the abundant thirds that the series contains; the top line of Example 4.7a shows a prime form of the series. The example also illustrates Rautavaara's procedure of pre-variation—the permutations of the basic pitch materials that he wrote before actually writing the score of the piece. The second line shows tetrachord and dyad variations of segments of the series, and the third line the first nine notes of an inverted set. The example also illustrates how Rautavaara introduces variety to the motivically concentrated series. He layers these variations on top of each other, so that the result is a rather complex, constantly changing harmonic web. Example 4.7b shows the rhythmic permutations that Rautavaara used together with the serial permutations of Example 4.7a. Together, these two charts formed a template from which Rautavaara wrote measures 16–21 of *Prævariata*; Example 4.7c shows measures 16–19.

Vogel's skepticism towards Rautavaara's pre-variation technique was perhaps sparked by the fear of the composer becoming a mere automaton who would be reduced to executing the score from precalculated parameters, but Example 4.7c shows that Rautavaara did not succumb to this. To the contrary, he did not hesitate to deviate from the template when he thought that a slight deviation would yield more satisfactory results. For example, the time signature of the first measure of the example, measure 16, would normally be 9/16, but Rautavaara chose to make it a "pivot" in the sense that it serves a double function as the final measure of the previous variation cycle (in 10/16 meter) and the first measure of the current one (in 9/16 meter). The

metrical requirement of the latter is solved in a rather simple fashion; Rautavaara starts the cycle on the second sixteenth note of the measure (see the C on the flute), thus preserving the required rhythmical profile of the cycle just beginning. The sixteenth notes on the tom toms and the sustained notes in the horn and strings are residual from the previous cycle; the F on the horn will become one of the required pitches of the next measure.

4.5 String Quartet No. 2: Facility with Twelve Tones

In 1958 Rautavaara studied in Cologne with Rudolf Petzold. While in Cologne, he set to work on a string quartet that would be published as his Second; the *Modificata* quartet of the previous year would be left unpublished.

String Quartet No. 2 must be viewed as the main composition of Rautavaara's Cologne period. In the quartet, the twelve-tone teachings of Vogel and Rautavaara's own expressive goals would be amalgamated into a sound and personal twelve-tone vocabulary.

> I felt now that I was in control of my technique so well that it was a tool of intuition, an apparatus for realizing my visions. No longer a grueling set of rules that restricted me. No, with it, I was able to bring about the music that I wanted to hear. Technique, the tone material that it forged, posed suggestions for me, showed a variety of ways for solving any situation. The music became my music—for the first time I had a well serving and flexible composition technique. (Rautavaara 1989, 199.)[4]

The first movement of the quartet shows Rautavaara's facility in using the twelve-tone technique and making it serve his expressive purposes. He had used permutations of basic rhythmic patterns as a unifying device in *Prævariata*, but now he was able to achieve smoothly flowing textures without a "pre-varied" template. In terms of rhythm and intensity, the first movement grows and recedes organically for the whole of its 6-minute duration, much in the same way that *Prævariata* does, but without the mechanical precision that is inherent in its metrical grid. On a measure-to-measure level, Rautavaara weaves a constant rhythmic net by using the four instruments in a manner similar to the medieval hocket practice, where voices alternate in carrying the

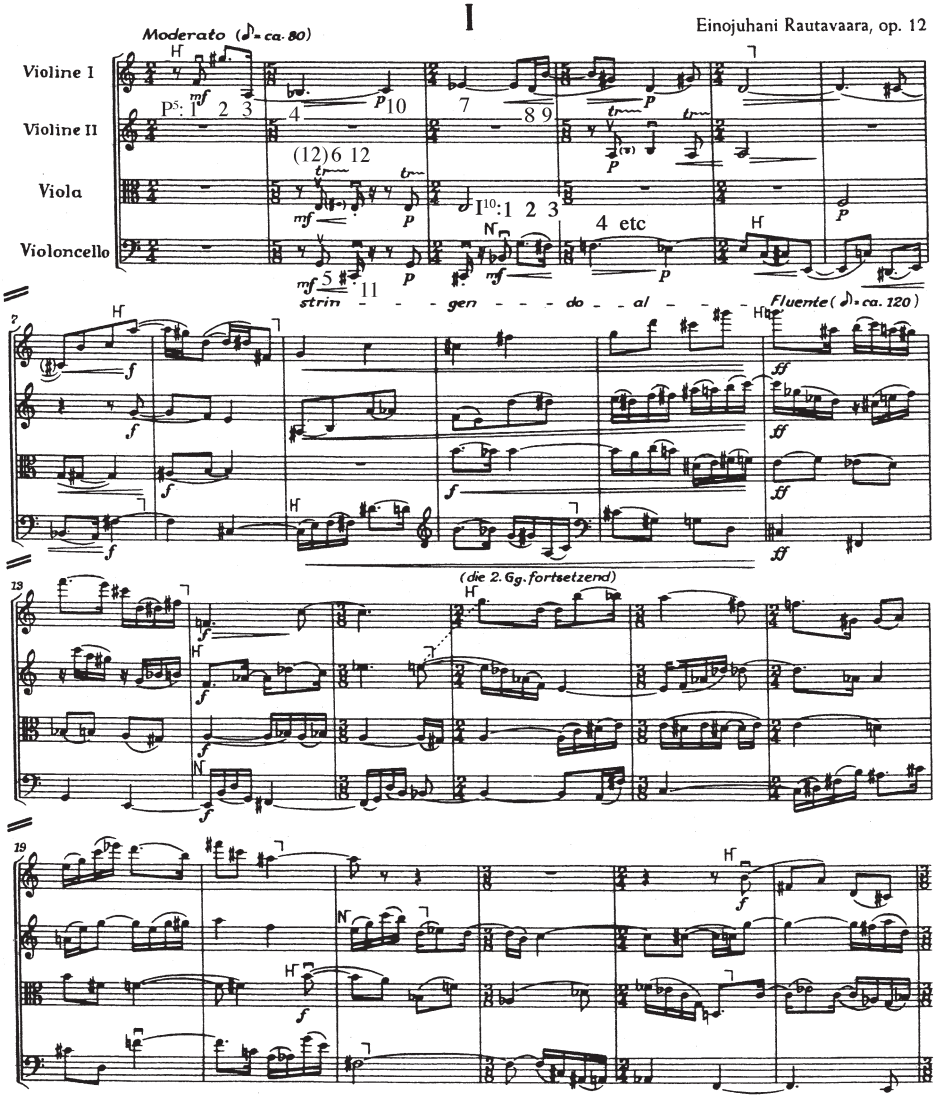
4. "Tunsin nyt hallitsevani tekniikkani niin, että se oli intuition väline, työkalu visioiden toteuttamiseen. Ei enää hankala sääntökokoelma, joka määräsi minua. Ei, saatoin tehdä sillä juuri sen musiikin jonka halusin kuulla. Tekniikka, sen työstämä sävelmateriaali teki minulle koko ajan 'odotuksia', näytti valikoiman tapoja joka tilanteen ratkaisemiseksi. Musiikista tuli minun musiikkiani – ensimmäisen kerran minulla oli oma palveleva ja joustava sävellystekniikka."

Helsinki – Kvartetti gewidmet

Streichquartett Nr. 2

I

Einojuhani Rautavaara, op. 12



Example 4.8. String Quartet No. 2, 1st movement, mm. 1–24.

melody forward. In Example 4.8, this type of texture is prevalent from measure 14 onwards. This technique lends itself to creating fluid motion that could, in principle, carry on indefinitely; it superimposes motion and repose, as one or more of the voices is more active while the remaining voices hold sustained notes.

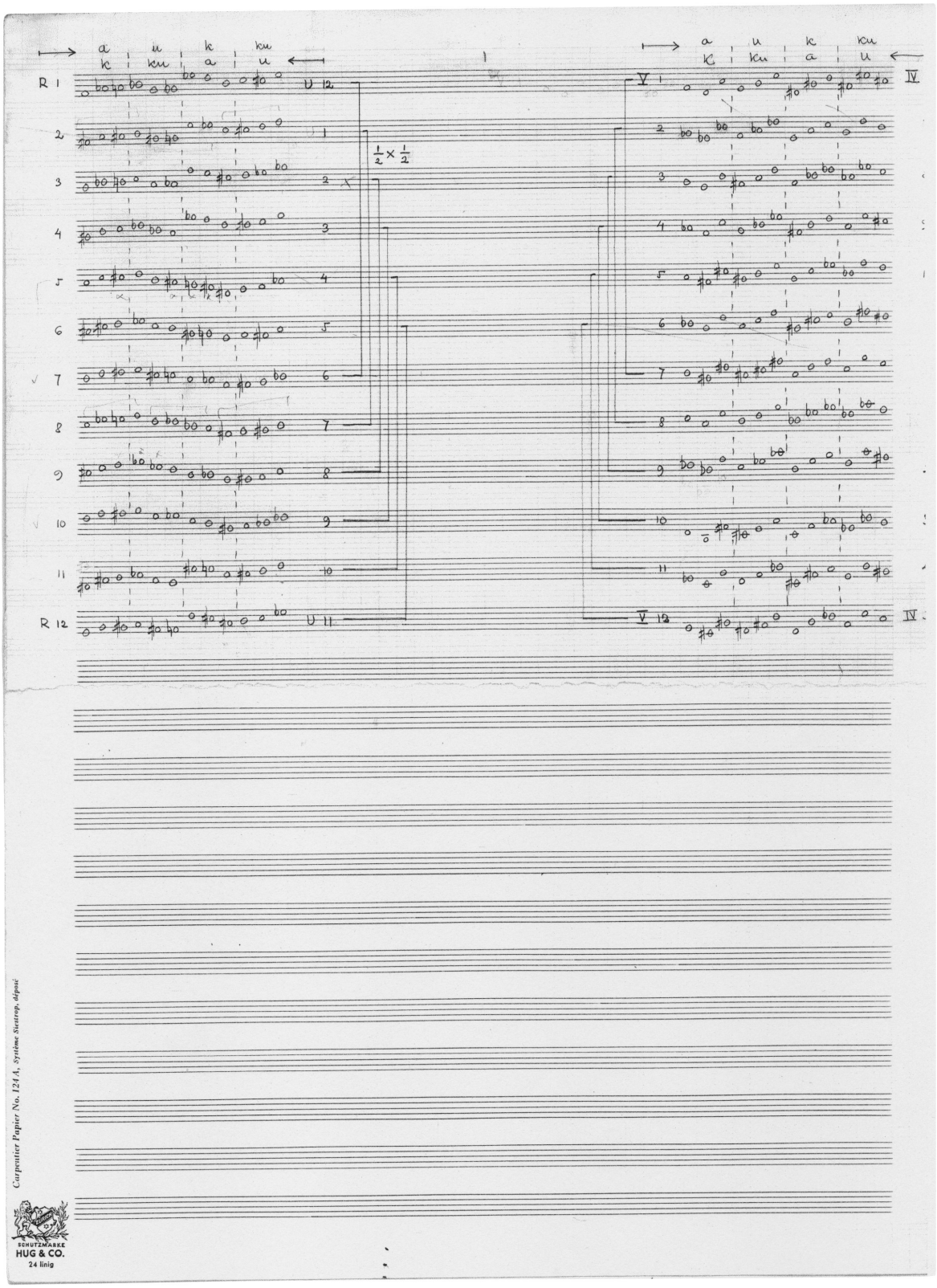
Rautavaara combines this perpetual motion with a remarkably tight twelve-tone series. This combination creates a texture that seems to develop constantly but is at the same time tight in terms of motif content. Sivuoja-Gunaratnam (1997, 163–164)

presents several alternatives for the series of the composition and argues that each has their merits in analyzing the piece. She settles on a series that she saw in Rautavaara's own personal score of the quartet. Without knowing, however, when exactly Rautavaara notated his score, it is impossible to tell whether it was the "original" series—that is, the series that Rautavaara used when composing the quartet—or whether he himself derived it from the music later on; it must be noted that Rautavaara wrote the quartet in 1958 and showed Sivuoja-Gunaratnam his score presumably sometime in the mid-1990s. In any case, since that time, what seem like Rautavaara's original series matrices have resurfaced and they show the most convincing versions of the various permutations of the series that Rautavaara probably used (see Example 4.9). The sketch pages appear to be the very matrices that he used when composing the quartet; the handwriting is similar to other pieces that Rautavaara wrote in the late 1950s and the manuscript paper is the same as well. Example 4.9a shows the prime and fifth series of the row and can be used to derive prime and retrograde forms of each. The lower half of the page is torn off but presumably showed the inverted forms. Example 4.9b shows a compound series that has notes 1–3 and 7–9 from the prime series and notes 4–6 and 10–12 from the fifth series. Rautavaara used this compound series in the second movement (see below).

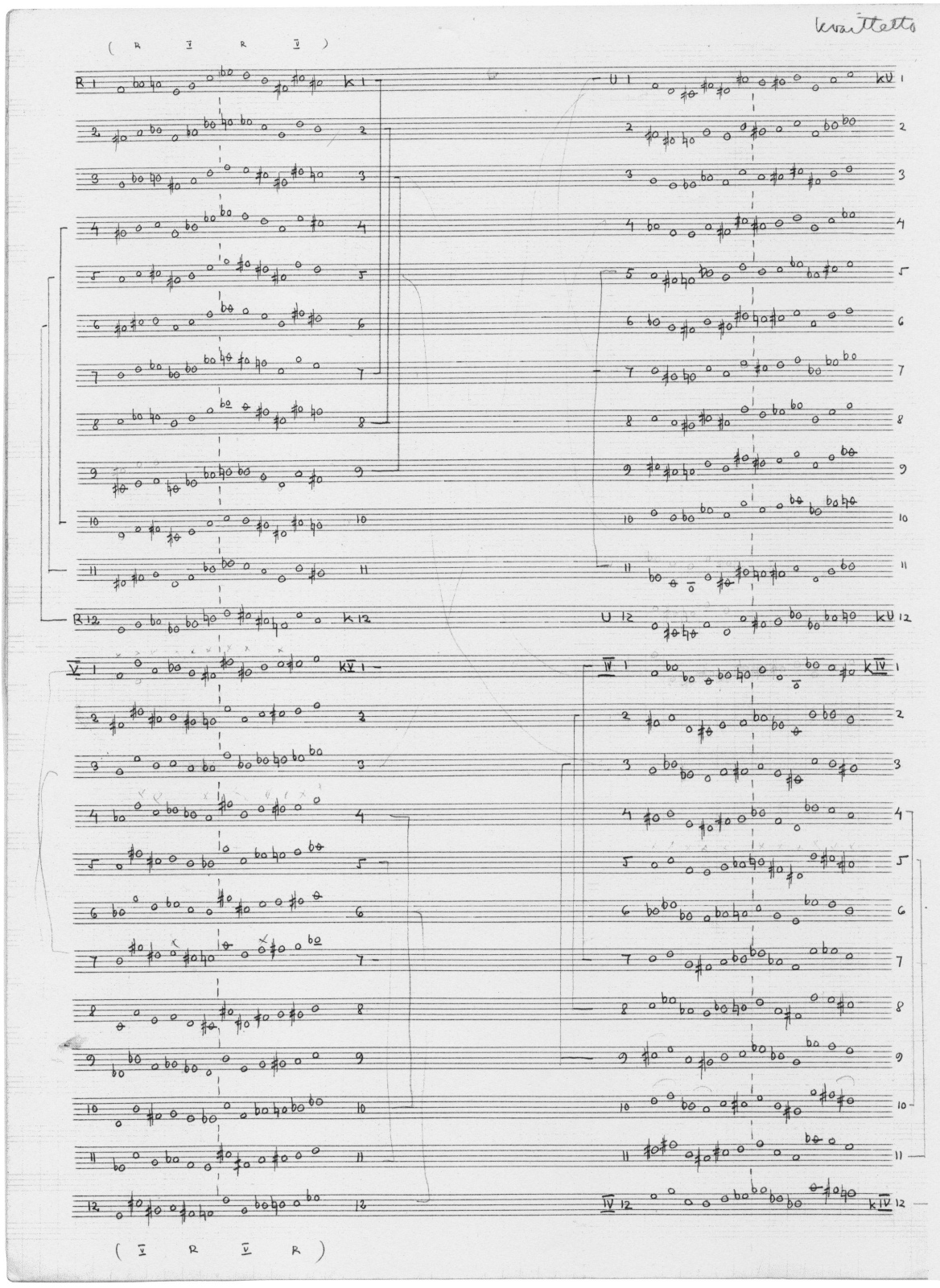
The series in Example 4.9 is far more characteristic of Rautavaara's serial practices than the one supplied by Sivuoja-Gunaratnam. Although there is certainly nothing wrong in the series that Sivuoja-Gunaratnam uses, it does not have all the properties that Rautavaara consistently sought for in constructing his twelve-tone rows.

The series for the quartet is an RI-symmetrical series; a prime form will have a duplicate among the retrograde inversions. It is also a derived series. The cell consists of a minor third followed by a minor second, both ascending. This cell (014) is then repeated three times with various permutations in its intervals and the ordering of the individual notes. When a fifth series is derived from the series thus created, it yields four consecutive triads.

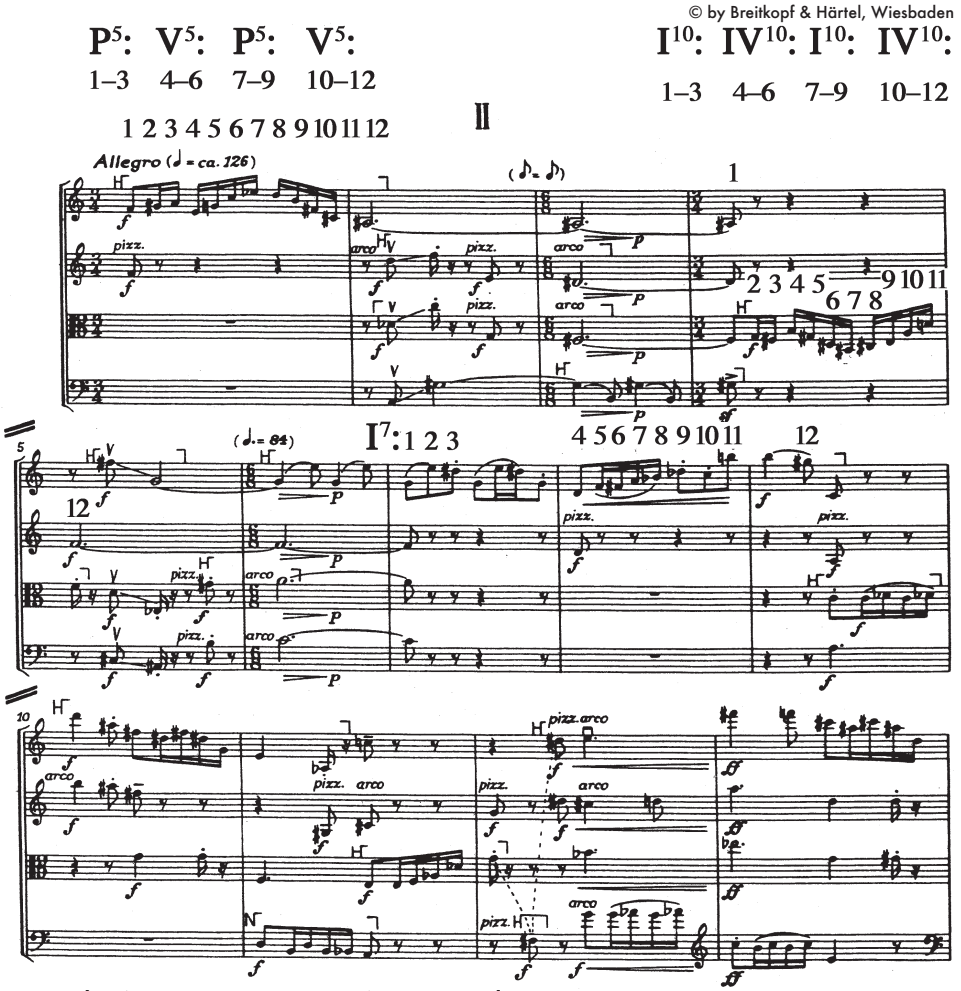
With the prime and fifth series, Rautavaara had two contrasting pitch material classes at his disposal. These gave him a wide palette of sonic possibilities and could be used to create contrasting textures. One series was more severe sounding, with frequent seconds in its interval content; the other was more spacious with its consonant triads. Because the three-note cells in both series have such individual and recognizable characteristics, they enabled Rautavaara to write tightly-knit music that still had enough variance so as to not become monotonous. Example 4.8 also shows that Rautavaara was not willing to succumb to the requirements of the technique when they did not suit him, because he had no problem deviating from the ordering of the



Example 4.9a. Rautavaara's tables for prime and fifth series of String Quartet No. 2 © The Estate of Einojuhani Rautavaara



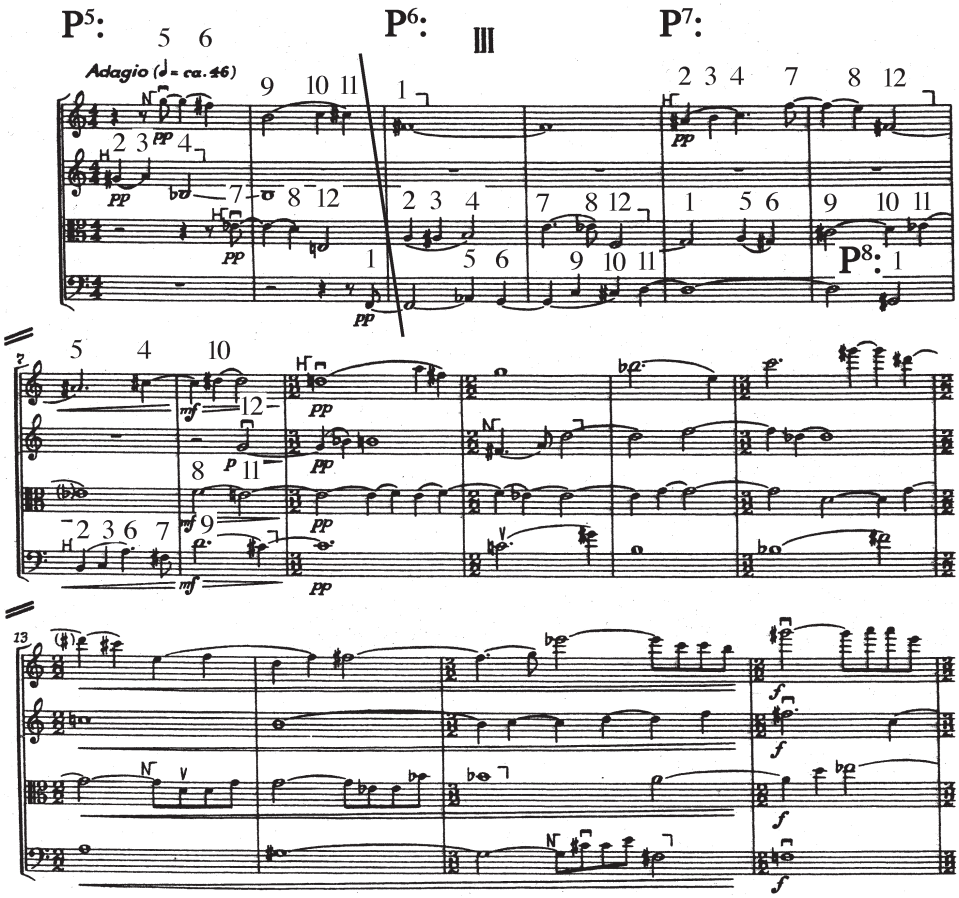
Example 4.9b. Rautavaara's tables for compound series from prime and fifth series of String Quartet No. 2.



Example 4.10: String Quartet No. 2, 2nd movement, mm. 1–13.

set when he felt it necessary. See, for example, the very beginning of the piece: notes 1–6 and 10–12 of the series are played in measures 1–2, and the missing three notes (notes 7–9 of the series) in measure 3.

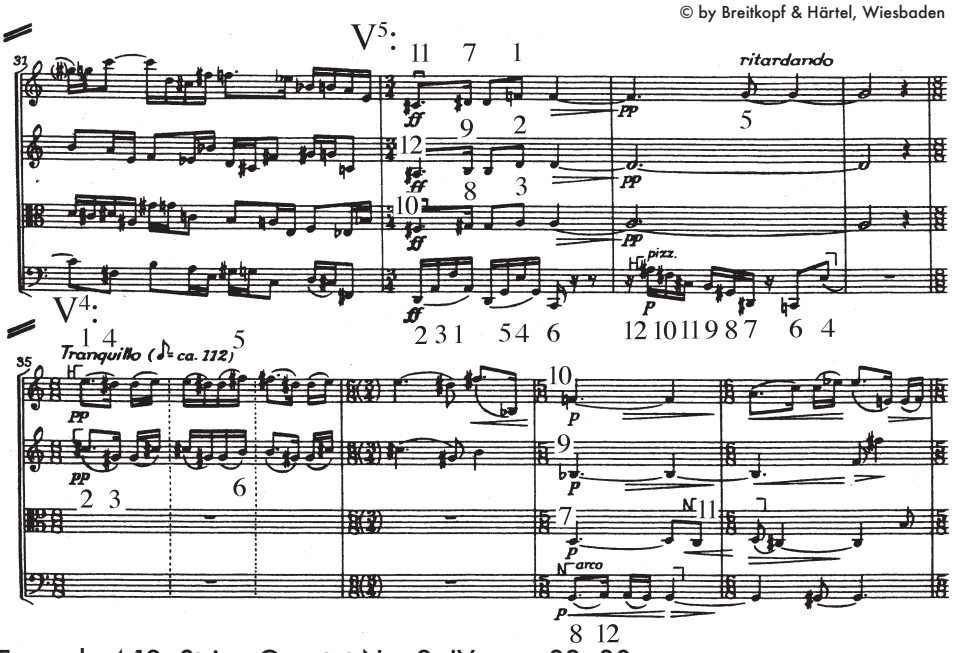
In the second movement Rautavaara mixes the contrasting sonic colors provided by the prime and fifth series; he uses rows that combine elements of the two rows by alternating the characteristic three-note cells. In Example 4.10, the violin melody begins with the first three notes of the original series, continues with notes 4–6 of its fifth series, then with notes 7–9 of the original, and finally, with notes 10–12 of the fifth series. Taken together, these twelve notes form a new twelve-tone series. The example also shows the basic rhythmic character of the movement; its swift triple-time motion renders it almost into a dance movement. There is certainly a rhythmic lightness that makes it a suitable scherzo after the weighty opening movement.



Example 4.11: String Quartet No. 2, 3rd movement, mm. 1–16.

In contrast, the third movement is a slowly moving adagio, and Rautavaara shows yet another way of deriving contrasting (but always related) material from the series. He uses the original series, but starts with its second note to highlight the minor seconds of the series; the focus is now on two-note segments of the series instead of the previously highlighted three-note cells. This gives the beginning of the movement a lamenting and intimate outlook. Rautavaara's writing emphasizes the seconds by treating them in a linear fashion. Thus, in the first two measures of Example 4.11, G♯ and A sound consecutively in the second violin; then, G and F♯ in the first violin, E♭ and D in the viola, and C and C♯ in the first violin. Even the remaining notes are clearly juxtaposed, because the B♭ of the second violin forms a pair with the first violin's B♮, as does the E of the viola with the F of the cello.

The classical four-movement plan of Rautavaara's quartet is completed by a fast-



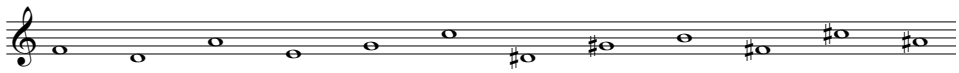
Example 4.12. String Quartet No. 2, IV, mm. 32–38.

paced finale. The textures are formed in a similar fashion as in the opening movement, because the four instruments knit a steady, kaleidoscopic sixteenth-note network. The rapid motion is offset by more tranquil passages, where Rautavaara emphasizes the tonal allusions of the fifth series. As Example 4.12 illustrates, Rautavaara often focuses on the triads that constitute the series, using them as basic units of harmony.

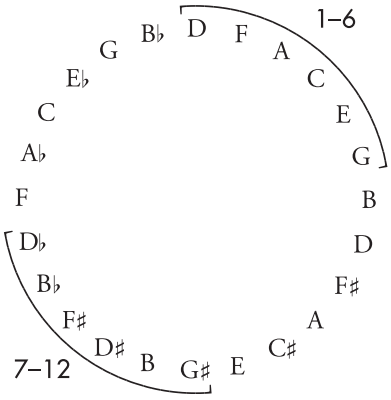
The quartet shows a technical facility that is new in Rautavaara's work. He often referred to a sort of "sleepwalking" in connection with his earlier works; the artistic successes of some earlier compositions were not a result of conscious choices, but of more intuitive writing (see e.g., Rautavaara 1989, 22). In the quartet, Rautavaara was able to use his newly-found technique as a tool to sustain the 22-minute composition without the danger of either monotony or overt diversity; he was able to introduce thematic links between the movements even while concentrating on different aspects of the series in each movement. In a sketch for a program note, written for a Swedish performance of the quartet in 1960, Rautavaara writes:

> The Quartet is, technically speaking, twelve-tone music—based on a series that I use strictly but as diversely as possible in what is called the 'durchgebrochene stil' [rigorous style] with interrelationships etc. On the other side the quartet is a definitive departure from the pointillist influences that were significant in, for instance, Prevariata for orchestra. (Rautavaara 1960.)[5]

5. "Kvartetten är 'tekniskt' tolvtonsmusik – baserad på en serie som jag använder 'strängt'



Example 4.13a. The fifth series of String Quartet No. 2.



Example 4.13b. The series V[5] of String Quartet No. 2 on the Harmonic Circle.

However, there are also some features that are common to the string quartet and other compositions that surround it. *Prævariata, Apotheosis*,[6] and the string quartet all show evidence of Rautavaara's fondness for symmetrical materials and forms. Although the twelve-tone series of *Prævariata* is not strictly symmetrical, its hexachords are. In the string quartet, Rautavaara expands symmetricity to the whole series. Common to the pieces of this period is also the tendency to use symmetrical forms; the ending of *Prævariata* retraces and reverses the steps of the beginning and *Apotheosis* makes use of similar procedures on multiple levels. Likewise, the second movement of the quartet incorporates mirror images in its formal plan. The first six measures of Example 4.10 illustrate a small-scale occurrence of inversional symmetry; on a larger level, these measures are retraced at the end of the movement.

From Rautavaara's earliest twelve-tone pieces there is a marked interest toward tonally-inflected harmonies. Even though there are often triads and chains of thirds in the textures, it is with the String Quartet No. 2 that Rautavaara really begins to find his voice as a serial composer. Specifically, the interaction with the predominantly stepwise motion of the prime series (with minor and major seconds) and the tertian nature of the fifth series (with thirds, fourths, and fifths) would become an important feature of Rautavaara's twelve-tone writing.

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men möjligast mångsidigt i sk. 'durchgebrochene stil' med interrelationer etc. Å andra sidan betyder kvartetten ett definitivt avståndstagande från de punktuella inflytelser som ännu gör sig gällende i t.ex. 'Prevariata för orkester'."

6. The reference here is to Rautavaara's first composition to be called *Apotheosis*, not to the similarly named finale of his Symphony No. 6 and the independent orchestral work derived from the finale. For more information on the earlier *Apotheosis*, see Tiikkaja 2014, 180.

The triads of the fifth series, specifically, form neat areas on the Harmonic Circle. Example 4.13a gives the fifth series (as it appears in Example 4.9a above) and Example 4.13b tracks it on the Harmonic Circle. The division into "white," or natural, and "black," or chromatic, hexachords is quite pronounced, clearly creating tonal areas that contrast each other as they appear on the opposite sides of the Harmonic Circle.

4.6 Die Liebenden: Free-Form Composition with Twelve Tones

Along with the String Quartet No. 2, *Die Liebenden* must be counted as one of the main compositions of Rautavaara's first serial period. In contrast to the proto-serial *Prævariata*, these two compositions exhibit the sort of freedom in Rautavaara's use of the twelve-tone technique that would be significantly reduced when he progressed towards integral serialism. It is also to this mode of composing that Rautavaara returned when he again adopted twelve-tone composition in the 1980s. The four songs that make up Rautavaara's second great Lied cycle to poems of Rainer Maria Rilke were all finished in a short time in March to April 1959. When referring to *Die Liebenden* (The Lovers) in a radio interview in 1968, Rautavaara commented on the poems of Rilke:

> It is a sort of scent that they have. The kind of swaying between abstraction and concrete images. And the rich mythology that he uses is often very concrete and clear, even though its explanations seem always to be very ambivalent. His style evokes a very strong atmosphere, and it is that atmosphere that drew me to it and has even later meant the most to me in Rilke. (Piirto 1968.)[7]

This atmosphere translated into dreamy, otherworldly music, as Rautavaara set to compose the songs in his newly-mastered twelve-tone idiom. *Die Liebenden* is very much like his String Quartet No. 2 in terms of technical facility and its rather free use of the twelve-tone method.

As in the quartet, Rautavaara uses the series merely as a starting point for each of the songs, using the basic sets mainly as repositories of motif and interval material; he will start a composition by adhering quite closely to the set, but is not wary of deviating from the strict ordering of the set as the pieces progress.

7. "Se oli jonkinlainen tuoksu, joka niissä on. Siis se hänen tyylinsä, hänen sanontansa. Se keinuminen abstraktion ja konkreettisen kuvan välimailla. Ja se runsas mytologia, jota hän käyttää, on usein hyvin konkreettista ja selvääkin, sen selitykset tuntuvat aina kuitenkin olevan hyvin monimahdollisia. Ja tuosta tyylistä ennen kaikkea syntyy hyvin voimakas tunnelma, hyvin voimakas atmosfääri, ja tuo atmosfääri oli se, joka minua veti puoleensa niissä. Se on Rilkessä myöhemminkin minulle merkinnyt kaikkein eniten."

The dreamy *Liebes-Lied*, the first song of the set, is a case in point. The serial backbone of the music is supplied by the piano, and the texture freely repeats tones of the series even before all other notes have been used.

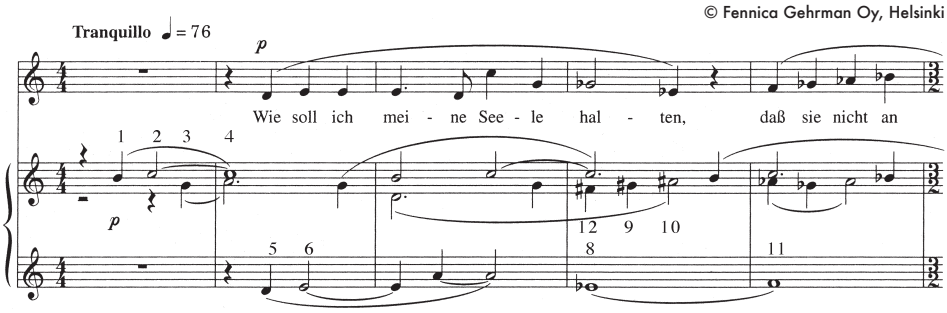
This is a feature of his composition technique that stayed constant throughout his career and is quite apparent in most of his twelve-tone pieces. The series serves only as a starting point, a breeding ground for the actual music of the piece; it is common for Rautavaara's pieces especially in his second serial period (starting in the mid-1980s) to wander further and further from the series as the pieces progress.

Very characteristically, Rautavaara creates tonal areas rather than strictly focused, concentrated musical events. One might compare this technique to pointillism in neo-Impressionist painting; just as the tiny dots of color of a pointillist painting seem to blend when viewed from a distance, the notes of the piano texture in *Liebes-Lied* blend to create slowly evolving tonal spaces. The voice, on the other hand, serves to focus the music. The melody does not follow the series linearly, but rather by following the contours of the piano textures. In this way, the voice creates a more natural and spontaneous-sounding melodic line than it would if it followed the series strictly (see Example 4.14).

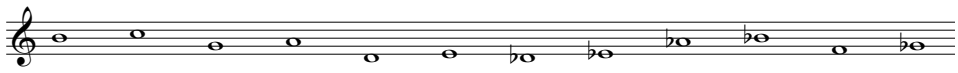
The music echoes the bittersweet sentiments of Rilke's poem with its slow pace and more or less constant quarter-note pulse. The series is constructed of pairs of seconds (Example 4.15a) and Rautavaara continues to focus on these characteristic intervals even as the music deviates more and more from the series throughout the song. The focus on seconds seems to add to the yearning of the poem—the constant semitonal shifts render a sense of volatility to the music. The ending of the song gives a sense of recapitulation as the opening gestures—with their more regulated twelve-tone writing—return.

Rautavaara wrote *Die Liebenden* more or less concurrently with his String Quartet No. 2, and significantly, he constructed the series in both compositions in a similar manner. Besides being a derived series (of dyads rather than trichords as in String Quartet No. 2), the series of *Liebes-Lied* is also RI-symmetrical. Example 4.15 shows the series of *Liebes-Lied* and tracks its hexachords on the Harmonic Circle. As in String Quartet No. 2, the series is starkly divided into white and black hexachords; the division is even more clearly audible in the music of *Liebes-Lied* than in the quartet.

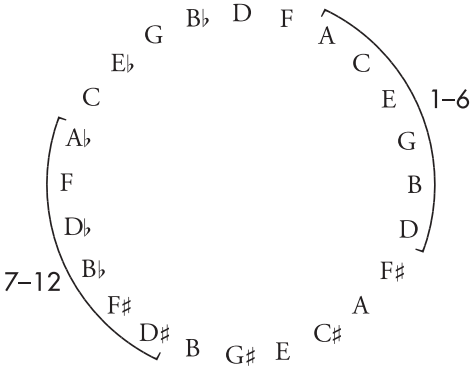
In the second song of the cycle, *Der Schauende*, Rautavaara similarly employs a series that juxtaposes black and white hexachords. The exact ordering of the tones is difficult to glean from the surface of the music, as Rautavaara rarely employs the series linearly. The unordered contents of the two hexachords, however, seem fairly certain. Example 4.16 shows the two hexachords arranged so that they form an R-symmetri-



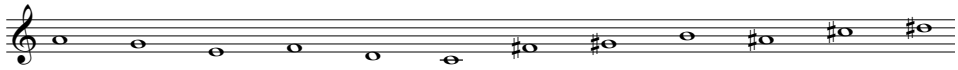
Example 4.14. Liebes-Lied, mm. 1–5.



Example 4.15a. The series of Liebes-Lied.



Example 4.15b. The series P^{11} of Liebes-Lied on the Harmonic Circle.



Example 4.16. The series of Der Schauende.

cal twelve-tone series. Knowing Rautavaara's fondness for symmetrical rows, it seems possible that his original series was similar to this one when he set out to compose the song. Other orderings are of course possible; quite often in the music the notes of the second hexachord appear in a different order, with the interval class 3 formed by notes 12 and 7 of the series (see Example 4.16) appearing before the remaining notes 8, 9, 10, and 11. Taking this into account might well justify using a different ordering for analyses, but as Rautavaara himself evidently did not attach any particular weight to the exact ordering of the series, I have chosen to use the more "perfect," i.e., symmetrical, ordering shown in Example 4.16.

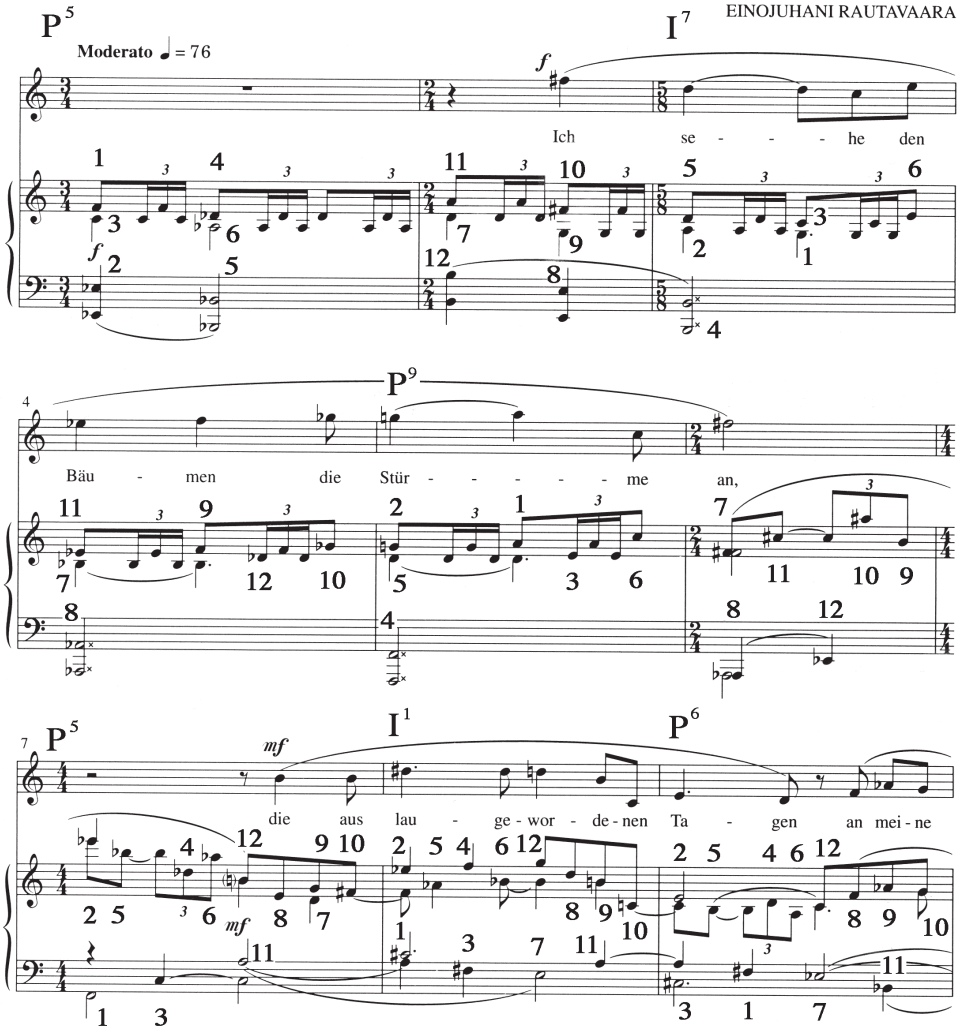
Der Schauende is the longest song of *Die Liebenden*; each of the three other songs last 3 to 4 minutes, whereas the duration of *Der Schauende* is roughly 6'30. The song is in a binary form AA^1; section A (mm. 1–68) is repeated with slight variations in A^1 (mm. 69–123). The sections are further subdivided into subsections that seem to follow the poem organically, with no particularly strong contrasts between the subsections.

However, different portions of the song are written with different forms of the series. The beginning of the song (subsection a, mm. 1–17) is dominated by prime and inverted versions of the series, and the stark juxtaposition of the hexachords is audible in the music as it traverses the different transpositions of the series. Example 4.17a shows the first nine measures of the song and Example 4.17b traces the series-forms on the Harmonic Circle.

The poem begins with the observer of the title (Der Schauende) looking at a storm-ravaged landscape and goes on to explore the parallels between the storm and Jacob's struggle with an angel in the Book of Genesis. This one of the first appearances of the angel myth in Rautavaara's output, preceded only by *Archangel Michael Fighting the Antichrist*, the final movement of the piano suite *Icons* (1956), where, according to Rautavaara, the reference to an angel is coincidental (Stępień 2010, 116; cf. also Tiikkaja 2014, 202). In the beginning of *Der Schauende*, the storm has already passed and affected the trees that the poet regards: "Ich sehe den Bäumen die Stürme an." The constant shifting between tritonally related hexachords gives the music a dynamic character, where the hexachordal motions constantly move the music to tonal extremes, possibly depicting the emotional distress of the observer who is looking at the changed landscape.

The second verse of Rilke's poem tells of the storm as a catalyst for change; in an instrumental interlude, Rautavaara's music anticipates the verse with abundant tritones before the voice joins in (see Example 4.18). As the hexachords of the series do not contain tritones (cf. Example 4.16), this subsection (labeled in my analysis as subsection b, mm. 18–26) is not written with a straightforward application of the series; nevertheless, almost all of the measures contain aggregates.[8] It is thus clear that these measures were also written serially, even though it is not easy to discern any particular ordering from these measures. The writing in these measures can therefore just as well be thought of as combinatorial use of the hexachords of the prime series; they belong to set class 6-32 (024579), which is one of the six all-combinatorial hexachords and can be used to create aggregates in several ways (see Straus 2000 [1990], 186).

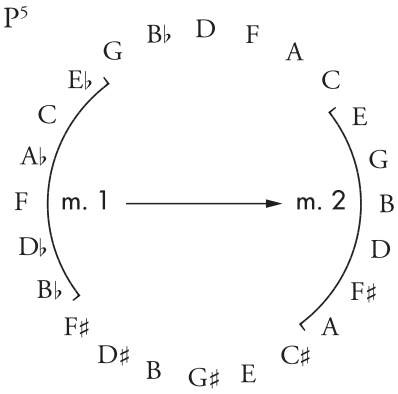
8. Measure 18 is missing the note D, which on the other hand was the penultimate note of measure 17, and appears again on the second beat of measure 19.

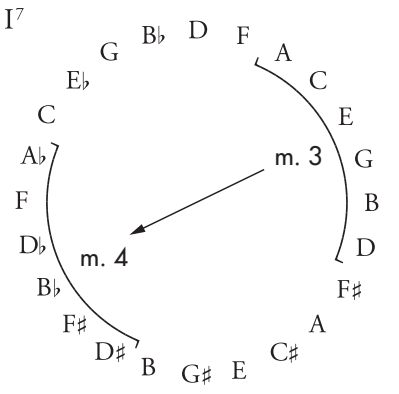


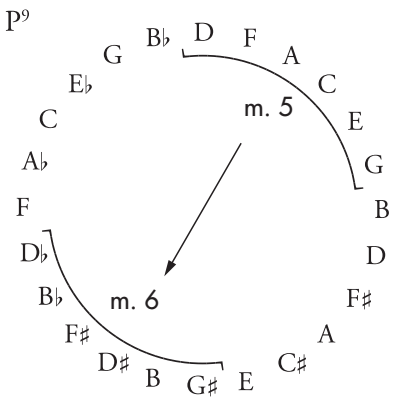
Example 4.17a. Die Liebenden, 2: Der Schauende, mm. 1–9.

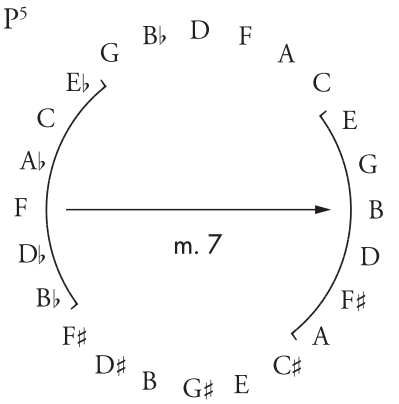
Rilke's poem in this verse deals with a storm: "Da geht der Sturm, ein Umgestalter, geht durch die Wald un durch die Zeit." Rautavaara depicts the storm by writing tritones, which bring the storm into the active foreground of the music. Rilke's second verse continues in Rautavaara's music as subsection c (mm. 27–36), where Rautavaara returns to prime and inverted forms of the series. This change reflects the content of the poem, as the text returns to a more abstract description of the landscape.

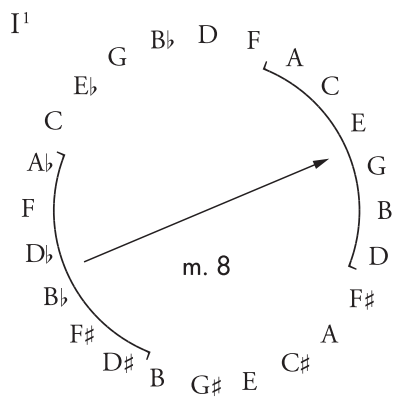
In the third verse, the poem turns introspective: "Wie ist das klein, womit wir ringen," and Rautavaara begins to use the fourth series. Instead of dividing the octave into black and white hexachords like the prime series, the fourth and fifth series divide it into distinct chromatic hexachords (see Example 4.19). The music written with this series forms subsection d (mm. 37–58) and is more chromatic and disso-

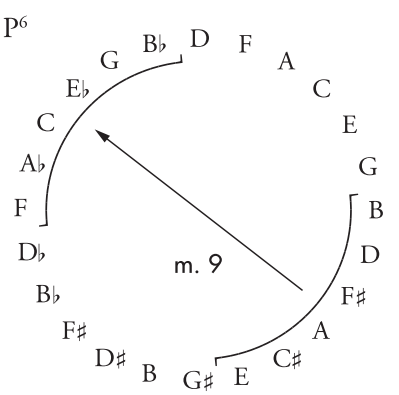




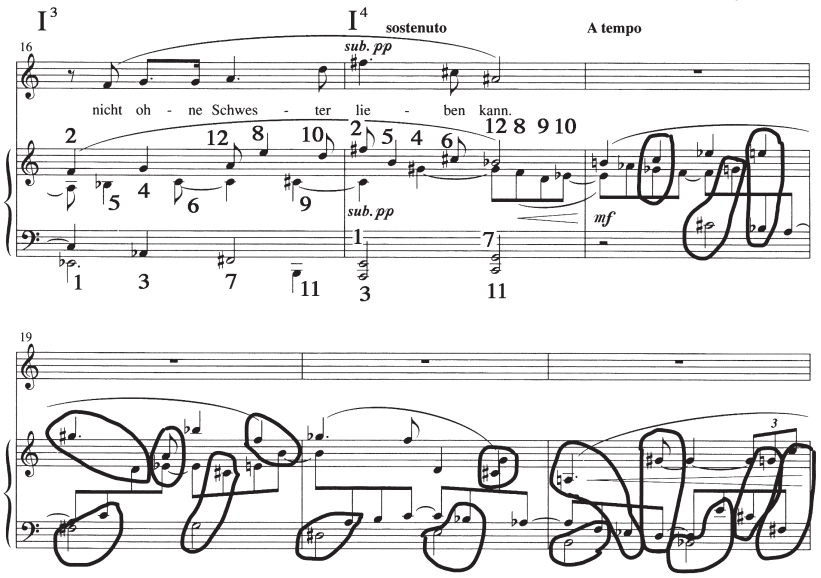




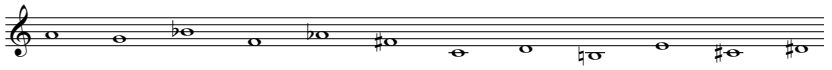




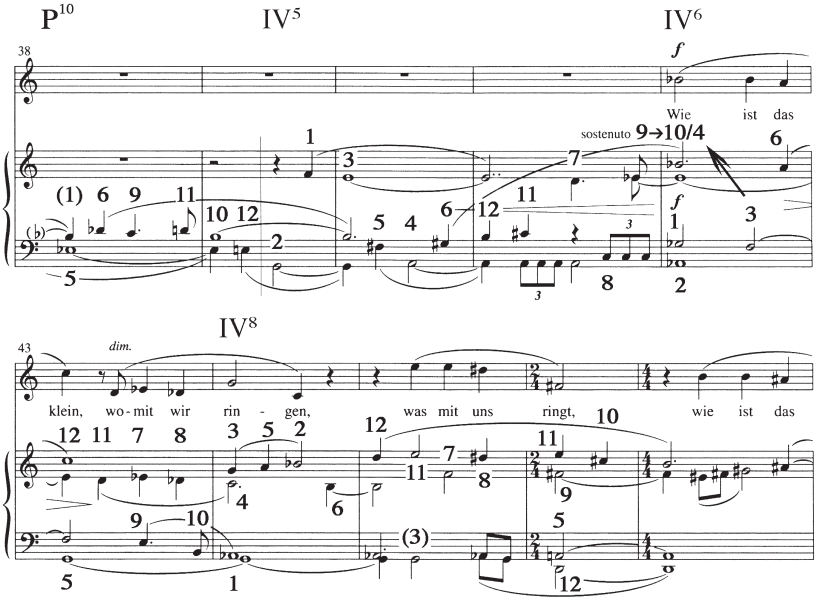
Example 4.17b. The series used in mm. 1–9 (cf. Example 4.17a) on the Harmonic Circle.



Example 4.18. Die Liebenden, 2: Der Schauende, mm. 16–21.



Example 4.19. The fifth series of Der Schauende.



Example 4.20. Die Liebenden, 2: Der Schauende, mm. 38–47.

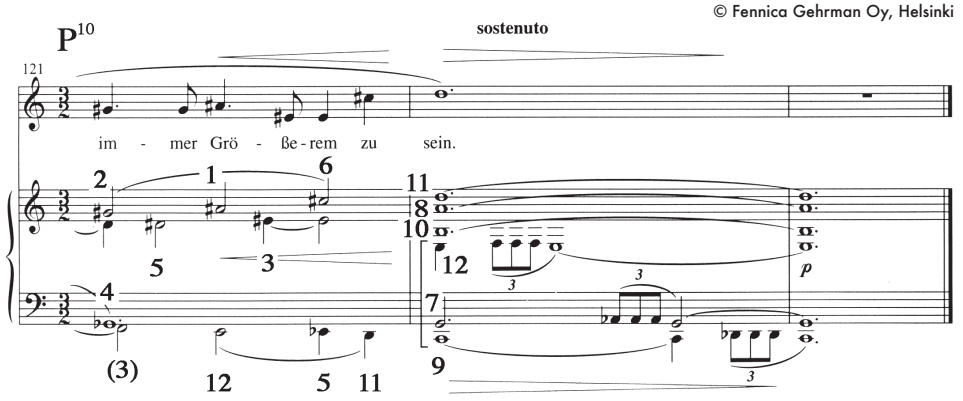
nant than music written with the prime forms of the series (Example 4.20). The tenor and bass are often spaced in sevenths or seconds, as in measures 42–45, and voice leading favors minor and major seconds as well, as those intervals are abundant in the fifth and fourth series.

Section A ends with subsection e, which continues with the hushed tones of the preceding subsection without dynamic contrast. The music, however, turns back to the prime series to depict the beginning of the fourth verse of Rilke's poem; this formal division point of Rautavaara's song occurs in the middle of the fourth verse of Rilke's five-verse poem. The overall dynamic curve of the A section (measures 1–68) is very much a waning one, from the energetic opening sixteenth-note triplet motifs to quite steady and subdued motion in quarter notes towards the end. In measure 69, the music again becomes more energized as section A^1 begins; A^1 (measures 69–123) is essentially a varied repetition of A (measures 1–68).

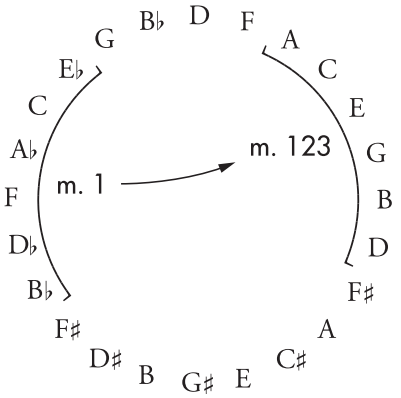
Significantly, the repetition begins in measures 69–70 with the words "Das ist der Engel," and the word "Engel," angel, is sung with the highest note of the entire song. Therefore, it serves as the high point of the song. Akin to section A, section A^1 wanes the further it proceeds after the expressive peak.

The subsections in A^1 are easily recognized as repetitions of their counterparts in A. The materials and their unfolding are quite close to their initial appearances in A. The major differences are that the rather hesitant subsection d, with its chromatic fourth series, is omitted in the repetition, but on the other hand, the concluding e1 incorporates a coda that makes it somewhat longer than its preceding counterpart. The following chart sums the structure of *Der Schauende*.

section	**m.**	**text**	**series**
A			
a	1–17	Ich sehe den Bäumen die Stürme an	P
b	18–26	Da geht der Sturm	tritones
c	27–36	und alles ist wie ohne Alter	P
d	37–58	Wie ist das klein	kV
e	59–68	Was wir besiegen, ist das Kleine	P
A^1			
a^1	69–85	Das ist der Engel	P
b^1	86–94	Wen dieser Engel überwand	tritones
c^1	95–104	der geht gerecht	P
e^1	105–123	die sich, wie formend, an ihn schmiegte	P



Example 4.21. Die Liebenden, 2: Der Schauende, mm. 121–123.



Example 4.22. The first and last hexachords of Der Schauende on the Harmonic Circle.

The song comes to rest in the final measure on a six-note "white" chord with the notes CGEBAD; these notes make up the latter hexachord of the series P^{10} (Example 4.21).[9] During the song, then, the music traverses from the initial series P^5, whose first hexachord is A♭B♭CD♭E♭F, to the concluding hexachord. While these two hexachords are not diametrically opposite each other on the Harmonic Circle, there is marked harmonic motion in traversing from one to the other; of course, this motion is hardly audible on the foreground of the music but exists on a deep level of the structure of the song (Example 4.22).

The third song of the suite, *Die Liebende*, is an ethereal, slow song. Even though the performance instruction and tempo indication (allegretto, quarter note = 100) suggest a rather fast movement, they are countered by a constant quarter-note pulse

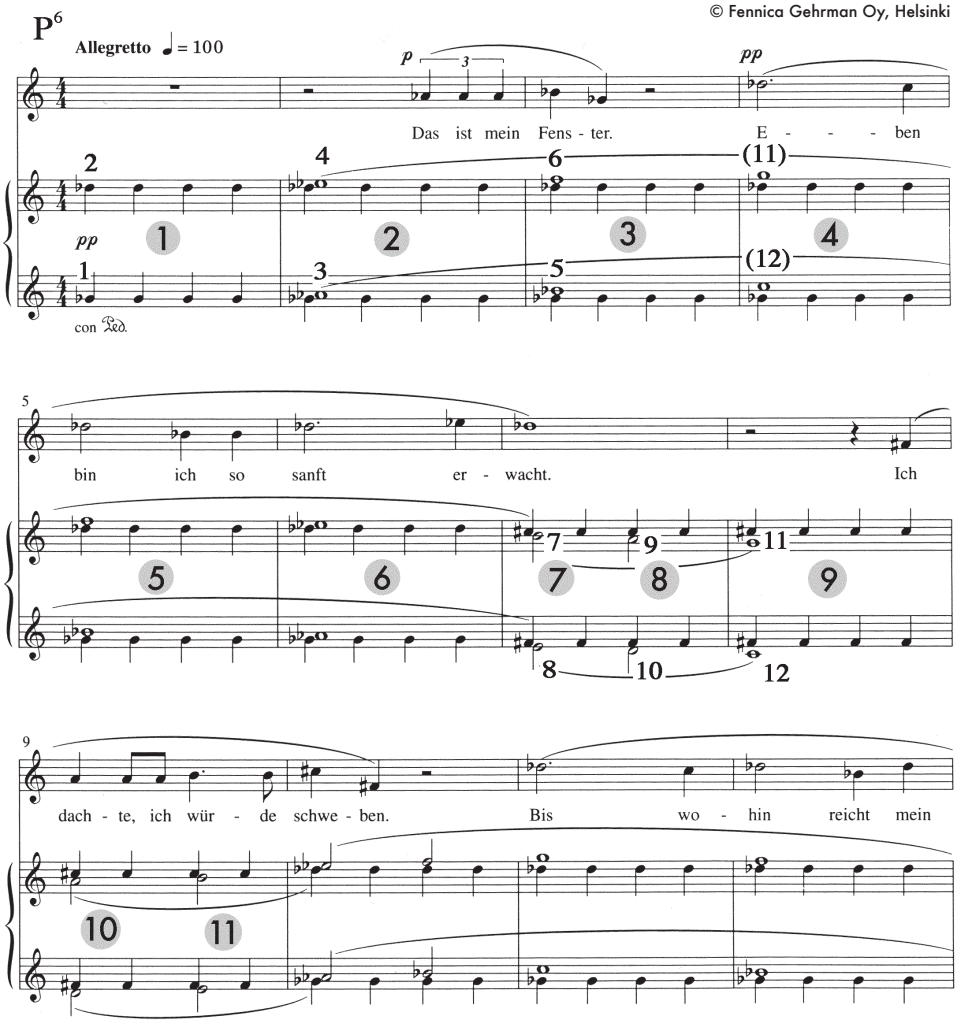
9. In measure 121, the bass motion can be interpreted as a linear, nearly chromatic descent to the concluding C. The F in measure 121 has sounded, slurred, from the latter half of measure 118, whereas the G♭ appears only at the downbeat of measure 121, descending chromatically from G on the last quarter note in the preceding measure. The bass motion therefore fills out the span of a tritone in measures 121–122, tying the bass line neatly with all the tritones heard previously in the song at various levels of structure.

that only pauses once near the end of the song before ceasing completely. In the beginning the root harmony is formed by a constant G♭-D♭ dyad, on top of which linear voice leading forms harmonies. Example 4.23a shows the first twelve measures of the song. In Example 4.23b, the parallel fifths formed by the initial G♭-D♭ dyad and the surrounding voice leading are traced on the Harmonic Circle. The first dyad acts as a pedal point, on top of which other voices weave their parallel motions. Example 4.23b shows that the dyads move uniformly around the Harmonic Circle, assigning them ordinal numbers that indicate the order of their appearance. The first dyad is the G♭-D♭ in the southwestern quadrant and the subsequent dyads start first to move on the circle in a clockwise direction, reaching their furthest point on the opposite side, with the dyad C-G, which is at a distance of a tritone from the initial (and constantly sounding) G♭-D♭. After this, the dyads reverse direction, starting to move counter-clockwise on the Harmonic Circle (dyads with ordinal numbers 5–9 in the example), eventually reaching the same dyad C-G from the opposite direction as originally. After this, the dyads again reverse direction and start moving clockwise on the Harmonic Circle.

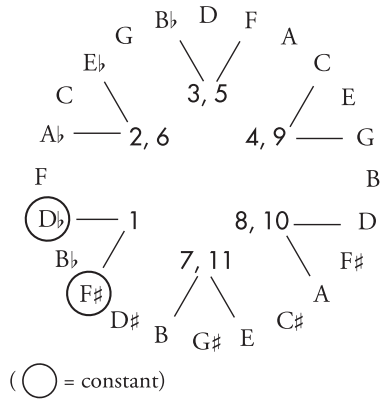
The frequent repetitions of tones make the music sound like non-serial writing, and indeed, the opening measures have a modal character. The first six measures could be interpreted as G♭ Lydian, measures 7–9 as F♯ Phrygian, both with minor modifications. However, as the notes in mm. 1–9 contain all twelve tones of the chromatic scale, they could be interpreted as dodecaphonic. Example 4.24 illustrates a twelve-tone row gleaned from these measures, considering (as with the row of *Der Schauende*) Rautavaara's fondness for symmetry and arranging the ordering of pitch classes accordingly.

In measure 21, at the start of the second verse, the music comes into focus as Rautavaara starts to write tertian chords instead of the linear textures of the preceding verse (Example 4.25). The music shifts from the G♭-D♭-based harmony to oscillation between two chords, F minor seventh and G major seventh chords. Before this, the text of the first verse describes the moment of waking; if the G♭-D♭-based harmony symbolizes dreaming, then maybe the motion described in Example 4.23 depicts the process of awakening, as the dyads traverse from G♭-D♭ to C-G and back, and then back to C-G, situated a tritone away. The F minor seventh-G major seventh oscillation, by contrast, depicts the real world in the eyes of the protagonist who has just woken up.

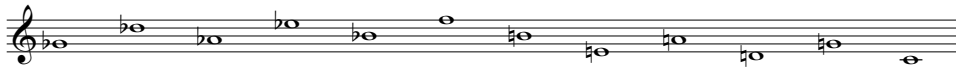
The F minor seventh and G major seventh chords and their neighboring motions form complementary hexachords; they are in fact the hexachords that the twelve-tone series in Example 4.24 contains. It seems fairly safe to say that Rautavaara did indeed use this series or one reasonably similar; it has the same division into complementary



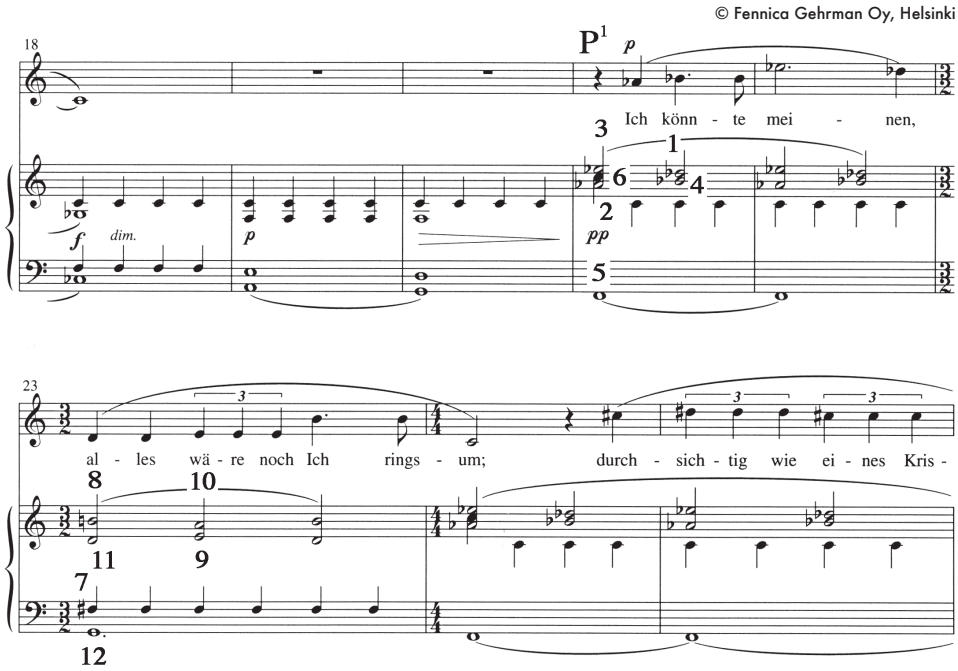
Example 4.23a. Die Liebenden, 3: Die Liebende, mm. 1–12.



Example 4.23b. The harmonies of ex. 4.23a on the Harmonic Circle. The numbers inside the circle indicate the order of iterations of the harmonies. These correspond to the numbers on grey background in Example 4.23a. The numbers on white background in ex. 4.23a indicate the notes of the series.



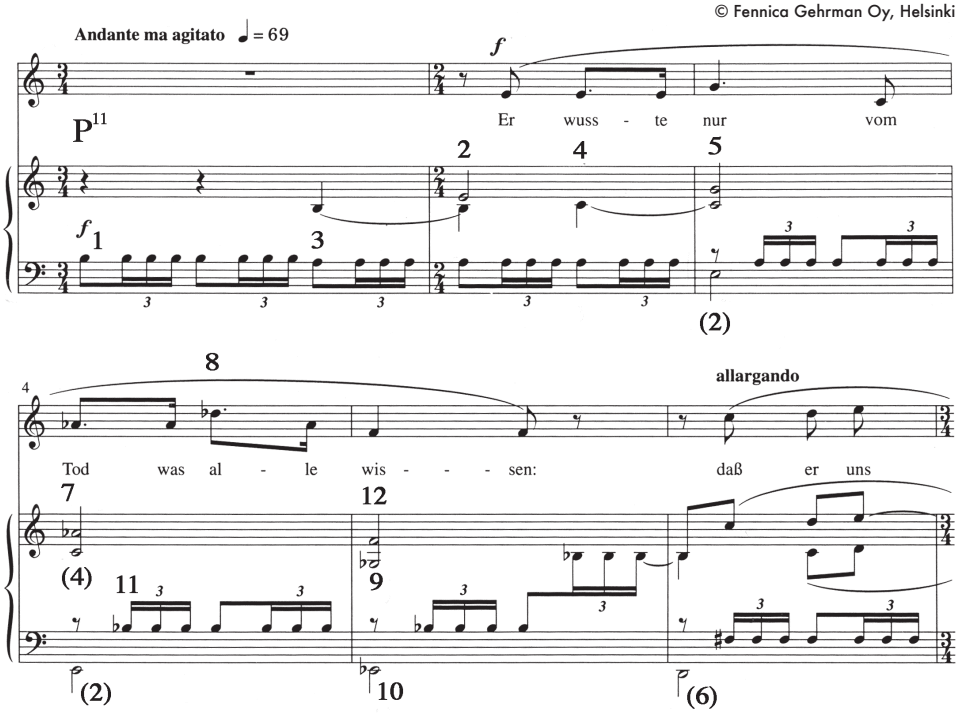
Example 4.24. Series for Die Liebende.



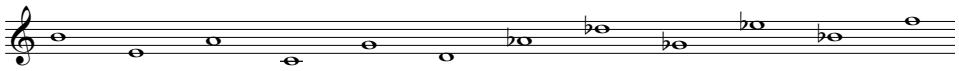
Example 4.25. Die Liebenden, 3: Die Liebende, mm. 18–25.

"black" and "white" hexachords as both of the series in the two preceding songs.

In the concluding song, *Der Tod der Geliebten*, a similar division can also be seen. Again, Rautavaara varies the ordering of his sets so that a definitive version for the prime series is difficult to ascertain. Example 4.26a shows the first six measures of the song, with serial ordering indicated by ordinal numbers. The series used is again constructed symmetrically (retrograde) and with a sharp division between the hexachords, as in the preceding songs of *Die Liebenden* (Example 4.26b). The arrival of the 6th note (D) is delayed here until the beginning of measure 6, but later it is found in its proper place (among the other five notes of the first hexachord). The hexachordal content is the same as in the series of *Die Liebende*, and with a slight permutation of ordering, is almost identical to the inverted form of that series. Indeed, all four songs of *Die Liebenden* are written with tone rows with identical hexachordal content; only the ordering of the tones varies from song to song. The common hexachord content ensures unity between the songs, while at the same time the differences in ordering from song to song introduce variety.



Example 4.26a. Die Liebenden, 4: Der Tod der Geliebten, mm. 1–6.



Example 4.26b. The series for Der Tod der Geliebten.

Der Tod der Geliebten is for the most part written using the prime series. Only occasionally does the music turn to the fifth series; there is also a brief section where tritones are prevalent for four measures (mm. 19–22; with the words "und als er fühlte, daß sie drüben nun wie einen Mond" (And when he felt that now, over there, the shadows, like a moon [had her girlish smile]). Therefore, the dynamic alternation between the two distinct and diatonic-tinged hexachords of the prime series drives this song, and the more chromatic series-forms only provide local contrast and at the same time depict the text content.

4.7 Kaivos: Towards an Interaction of the Series and Triads

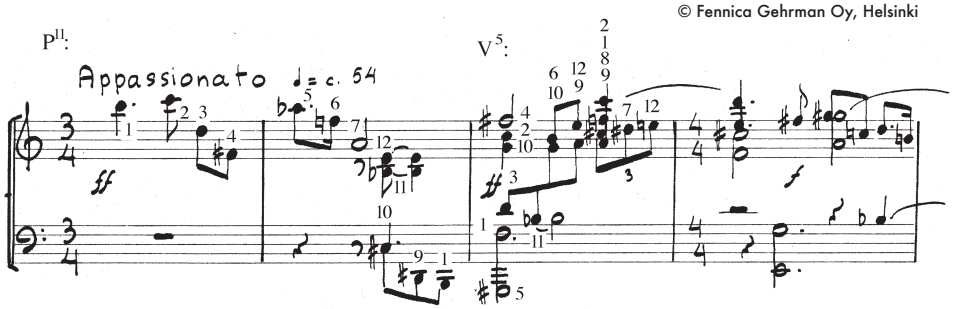
Rautavaara's first opera *Kaivos* (The Mine, 1957–63) deals with stark philosophic subject matter, with explorations of individual freedom and duty and abundant Existentialist themes. The opera was inspired by the Hungarian uprising of 1956 that was

violently suppressed by Soviet forces. In the libretto, rebels are sieged by government forces and are forced to flee into a mine. The desperation of the rebels is well depicted by the overall mood of the music, which is dark-hued and forbidding. The first act starts with an arching theme that becomes one of the chief motifs of the opera (Example 4.27). Much of the music of *Kaivos* is serial and the characteristic features of Rautavaara's earlier twelve-tone writing are evident in this piece as well. He deviates from the initial tone row already in measure 3. There is no straightforward ordering in that measure, but it seems possible that it was composed using the fifth series; the first chord contains notes 1, 2, 3, 4, 5, and 10 of the fifth series—but of course, with as many as six pitch classes sounding together, the identity of any chord is likely to diminish considerably. There are no overtly tonal allusions in the prime series of *Kaivos*. The rather acerbic interval structure of this series lends the music a stark tone that befits the gloomy atmosphere of the libretto.

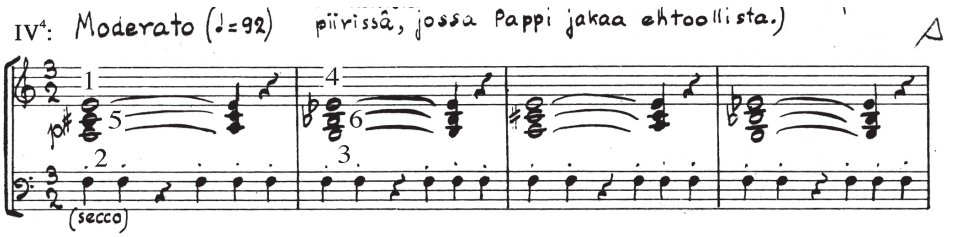
But even here, Rautavaara finds a way to write triads when it seems appropriate. It has often been noted that Act III has a softer, more consonant quality, and this has been interpreted as a change of style (Kilpeläinen 1982, 93–96; discussed in Sivuoja-Gunaratnam 1997, 93) instead of a requirement of the libretto, which is what I consider it to be. This seems to be the view of Mikko Heiniö as well (1986a, 98). In the beginning of Act III, the atmosphere is solemn as a priest administers communion to the besieged miners. The choir sings a hymn to Mother Mary and the priest sermonizes. The music at the beginning of the act is softly consonant, in accordance with the solemn, religious subject matter (see Example 4.28).

The hymn to Mother Mary is essentially based on the alternation of two triads that are at the distance of a tritone from each other. These triads derive their interrelationship from the first hexachord of the fourth series (inversion of the fifth series) that becomes prominent in the priest's sermon (Example 4.29). Act III begins with IV^4, whose first hexachord outlines A major and E♭ major triads (Example 4.28). Those same triads are derivable from a different transposition of the fourth series as well; as the two trichords are transpositionally symmetrical, IV^{10} has the same triads in opposite order. Because the triads of the hymn are so easily derived from the series, the hymn does not really signify a change in the composer's style but is merely a musical passage that is required by the events of the libretto.

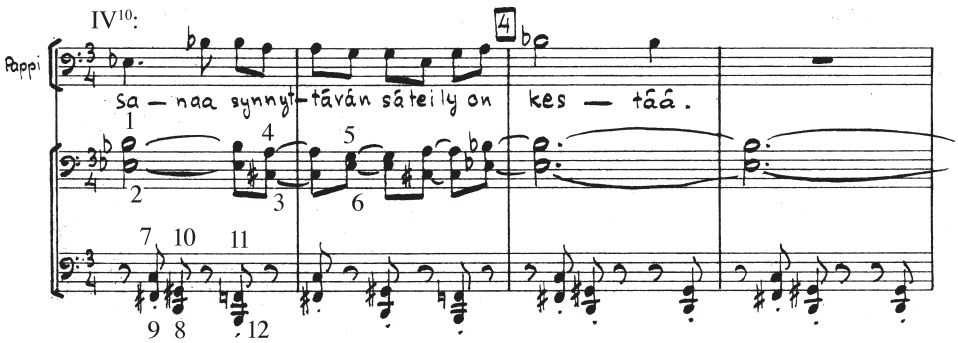
The series of *Kaivos* cannot be laid out on the Harmonic Circle as neatly as the series of the pieces discussed above. The first hexachord of the fifth series of *Kaivos* contains two triads in a tritone relation, and Rautavaara writes this tritone axis out explicitly (see Examples 4.28 and 4.29). These two triads are at the opposite sides of the Harmonic Circle, as any tritone relationships will be (Example 4.30).



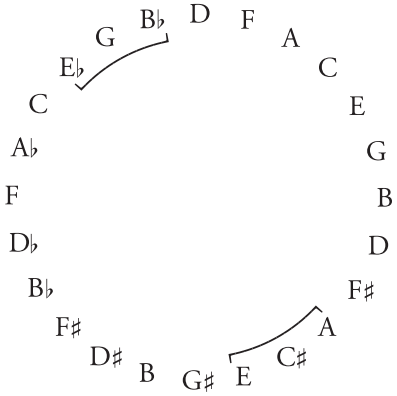
Example 4.27. Kaivos, Act I, mm. 1–4.



Example 4.28. Kaivos, Act III, mm. 1–4.



Example 4.29. Kaivos, Act III, mm. 38–42.



Example 4.30. The A major and E♭ major chords from Act III of Kaivos on the Harmonic Circle.

In all likelihood, Rautavaara wrote the series of *Kaivos* in the autumn of 1957, quite early on in his first serial period,[10] and this is perhaps the reason why the series does not have the structural sophistication (such as symmetry or a concentrated interval content) of his later twelve-tone rows. As he began to write Act III, he probably had more experience with tonal allusions that were possible even in the context of twelve-tone writing—such as those that occur in *Die Liebenden* or String Quartet No. 2—so he had no problem seeking out similar harmonies from the fifth series in the beginning of Act III.

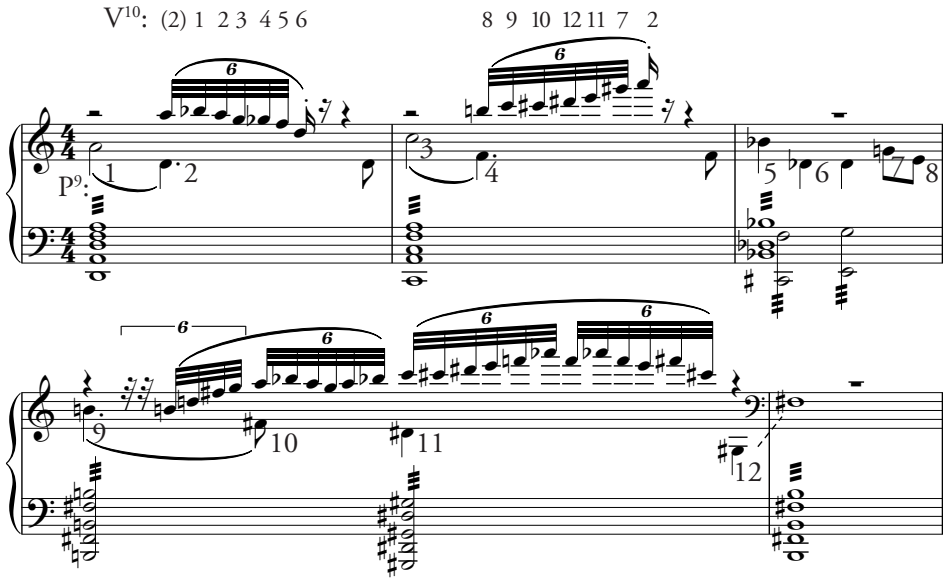
4.8 Symphony No. 3: Brucknerian Serialism

The peak of Rautavaara's first serial period is his third symphony (1962), where he purposefully alluded to the symphonic style of Anton Bruckner. Accordingly, the harmonies of the symphony are abundant with triads, even as much of the music is serially conceived.

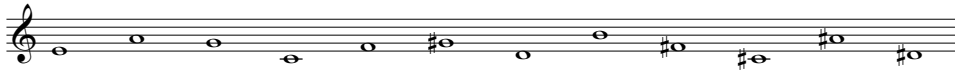
As Symphony No. 3 has been exhaustively discussed by Aho (1988) and Sivuoja-Gunaratnam (1997), I will only consider it briefly. Pertinent to the present discussion, in the symphony Rautavaara continued to fuse together the contrasting but related series-forms of prime and fifth series. In the beginning of the first movement, for instance, the main theme is supplied by the prime series (or fifth series, since the two series-forms are interchangeable), with plenty of open-sounding fifths on the French horn. In the fifth series, fifths are transformed into semitones and vice versa, so that the flute arabesques that act as accompaniment to the main theme can be seen to be derived from the fifth series (see Example 4.31).

Example 4.32 shows the series of Symphony No. 3 on the Harmonic Circle, again with the hexachords clearly demarcated. Here, tones 6 and 7 seem to be distinct from the first and second hexachords, respectively. Significantly, those two tones create a tritonal pivot in the middle of the series and are situated on directly opposite sides of the Harmonic Circle, as are the two remaining pentachords. Given that tones 6 and 7 occur consecutively in the series and are situated in the middle, and both seem connected to either of the remaining pentachords on the Harmonic Circle, they seem to form a tritone pole in the middle of the series.

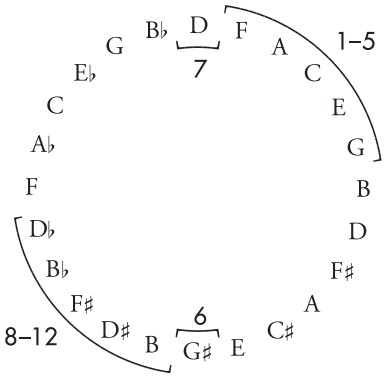
10. On the birth process of *Kaivos*, see Tiikkaja 2014, 183–185, 211–215.



Example 4.31. Symphony No. 3, 1st movement, mm. 6–10.



Example 4.32a. The series P4 of Symphony No. 3.



Example 4.32b. The series P4 of Symphony No. 3 on the Harmonic Circle.

4.9 Rautavaara: A Wandering Romantic

This chapter has shown that quite early on in his first serial period, Rautavaara had found his own personal way of applying serial techniques to his own music. Already his first twelve-tone row, in *Elegia*, contains triads that are clearly audible in the texture. *Elegia* also shows Rautavaara using the series as a recurring device that provides

motivic stability to the beginning and end of a musical piece, while the middle section supplies contrast by deviating from the series.

His first piece of music written under Wladimir Vogel's tutelage, *Recitatio* from *Modificata*, has a symmetrical row; this is again a device that Rautavaara would use extensively in his later compositions. *Ave Maria*, likewise written with Vogel in Ascona, shows Rautavaara experimenting with using prime and fifth series in distinct parts of the composition and fusing the two together in the end.

Prævariata has a structurally condensed series—a symmetrical row that can at the same time be seen as a derived series of two- or three-note cells—that Rautavaara applies in the music according to a pre-varied template, on a constantly swelling and receding metric template. It exemplifies a "pointillist" point of departure, to use Rautavaara's own term (Rautavaara 1960), that had an antithesis in the freely flowing textures of String Quartet No. 2 and *Die Liebenden.* Rautavaara's first opera *Kaivos* shows Rautavaara moving even more explicitly into tertian harmonies in his serial writing, a development that reached its peak in the Brucknerian Symphony No. 3.

The next chapter discusses the reasons for Rautavaara's venture into integral serialism, a stylistic phase that proved disastrous for him and ended up in a crisis. Had he continued with the tonally inflected twelve-tone writing of Symphony No. 3, his stylistic path would no doubt have seemed a more logical one already in the 1970s, when he was writing about Arnold Schoenberg as a "Wandering Romantic."

Given the diversity of his own output, and the prevailing romanticism of his music throughout his career, he has certainly been a "Wandering Romantic" himself, testing out the various techniques available to a contemporary composer while seeking to maintain his own musical identity. Such exploration is well summed up by a statement of his own, written much later, when he was turning 70:

> Today, as we look at the situation with an ever widening perspective, it seems that the vocabulary of the twelve evenly tempered tones really is the actual vocabulary of our century. The question revolves around its 'organization,' and Viennese dodecaphony was merely one suggestion for the syntax of musical language. Everyone can create their own. (Rautavaara 1998b, 69–70.)[11]

11. "Katsoessamme tänään tilannetta yhä laajenevassa perspektiivissä näyttää siltä, että kahdentoista temperoidun sävelen vokabulääri todella on vuosisatamme varsinainen sanavarasto. Sen 'organisoimisesta' on kysymys, ja wieniläinen dodekafonia oli vain yksi ehdotus sävelkielen syntaksiksi. Jokainen voi luoda omansa."

5
Integral Serialism and Crisis (1962–1967)

After Symphony No. 3, Rautavaara made one of the most drastic changes in his output. On one hand, this change from classic twelve-tone techniques to integral serialism can be thought of as a more or less logical progression of composing technique, of seeking to control more parameters than just pitch by using serial procedures. On the other hand, the aural change between Symphony No. 3 and his next composition, *Arabescata*, is palpable; anyone hearing the two pieces back-to-back will likely not have the impression of logical progression but that of a more profound revolution. This chapter investigates the reasons and consequences of the change. As was mentioned in Chapter 1, the primary purpose of this chapter is to show how events in Rautavaara's private life affected his output and stylistic choices; as the harmonic processes in the compositions discussed in this chapter are profoundly different from those in Rautavaara's other style periods, the analytical tools employed in connection to them are not feasibly applicable here.

5.1 The Marriage of Einojuhani and Mariaheidi Rautavaara

How much can the works and biographical events of an artist relate to each other? Can an analyst point out, with any plausibility, correspondences between the everyday occurrences of a composer's life and their compositions born within the same period? As an example, consider the works of Richard Strauss. His *Symphonia domestica* (1903) famously depicts the life of its composer, as does its predecessor in Strauss's œuvre, *Ein Heldenleben* (1898), although the treatment of the subject matter is markedly different in the two works. *Ein Heldenleben* depicts the outward, public projection of a heroic protagonist, whereas *Symphonia domestica* purports to show the same protagonist in a domestic, private setting. (Cf. Boyden 1999, 140–143; 159–160.)

Even if the subject matter is the composer's own life and persona, it is hard to analyze with any certainty that the work in question would be any different if the subject matter were something else. In Strauss's case, are *Don Quixote* (1898) and *Ein Heldenleben* (1898), pieces that Strauss worked on simultaneously, decisively different

in terms of pitch organization, melodic design, or otherwise? Are the two protagonists, the hero (in *Ein Heldenleben*) and the anti-hero (in *Don Quixote*) treated differently by Strauss? Similarly, is the music of *Symphonia domestica* directly derived from the events of Strauss's family life, or is it a stylized depiction of family life in general, applicable to the Strauss family as well as any other? Such questions are ultimately impossible to answer, since the composer is the only person with first-hand knowledge of the actual signification of a given piece of music.[1] Any other signification attached to the music must be a reactive interpretation (as opposed to the composer's *proactive* interpretation of his or her inspiration at the moment of composing it). Even interpretations supplied by the composer after the composing act are necessarily reactive.

Of course, it has been debated whether it is at all necessary to know the author's intentions to interpret their work correctly—meaning, in this case, the way the author interpreted the work. Members of the New Criticism school of aesthetics held that knowledge of authorial intent is not essential for the proper appreciation of an author's work (see, for example, Beardsley & Wimsatt 1954 [1946]; Beardsley 1958, 17–29; 1982, 188–207). "Our task as interpreter is not to find out what was going on privately in the author's mind that he did not choose to reveal in his text, but to find out what is going on in the text […]." (Beardsley 1982, 205).[2]

Beardsley also considers the possibility that a work of art may contain private or idiosyncratic meanings; but "[c]lear-cut cases are hard to find." (Ibid., 202; see also, Beardsley & Wimsatt 1954 [1946], 10–11.) Rautavaara's propensity for self-quotation and self-allusion might be a fruitful avenue of exploration in this context; it does not seem impossible that he encoded a network of signifiers into his "œuvre-in-progress" (cf. Chapter 2.5). However, if there are such idiosyncratic signifiers, he did not explain them in public. Only a few come to mind, and their putative signifieds must necessarily be interpreted from their context, not from any explication from the composer.

One such case might be the motive of rising fourths that originally appears in "La

1. Cf. Boyden 1999, 142, discussing *Ein Heldenleben*: "Although the work is openly satirical—of itself, heroism and its composer—the line dividing the real from the imagined is so thin that no one other than the composer himself can have known or decoded its true nature."

2. In this particular passage, Beardsley is discussing irony, and whether it is necessary for the reader to be aware of an author's private views of a particular subject in order to gauge whether the author is speaking in earnest or ironically. But besides irony, the anti-intentionalist viewpoint reflected by the quotation is applicable to interpreting other modes of speech as well—the anti-intentionalist viewpoint holds that it is not necessary to know the intentions of the author in order to interpret the text. (Cf. Beardsley 1982, 188–207). Beardsley particularly criticizes the views of such Intentionalist writers as E. D. Hirsch (see, for instance, Beardsley 1970, 16–37). Beardsley's and W. K. Wimsatt's co-authored article "The Intentional Fallacy" (1954 [1946]) was particularly influential as an attack against Intentionalist theories; its very influence is attested to by the long list of commentaries and critiques it has received in subsequent decades.

luna asoma" from the *Lorca Suite* (1973; cf. Rautavaara 1998b, 24–25.) The same motive later appears in the Violin Concerto (1977) and later still, in 1993, in the choral piece *Die erste Elegie*, on the words "Ein jeder Engel ist schrecklich." Perhaps the angelic subject matter of the latter piece could be argued to underlie the motive's previous incarnations—especially since music surrounding the motive, originally from "La luna asoma," appears in *Annunciations* (1977), the subject matter of which does tie with Rautavaara's other angel compositions. However, the actual fourths-motive is absent from *Annunciations*.

Another case might be the monologue of the main character in the third act of Rautavaara's opera *Thomas* (1985). The monologue takes place in connection with Thomas's lonely retreat from his unsuccessful crusade against Novgorod. In later stages of his career, Rautavaara became increasingly fascinated by this music; it forms the basis of the slow movement of his 8th symphony *The Journey* (1999)—the Symphony's subtitle is in fact derived from the opera, as the monologue depicts the seemingly endless and torturous journey of its protagonist. Later, some of Rautavaara's last compositions contain the main theme of the monologue—i.e., Cello Concerto No. 2, *Towards the Horizon* (2009) and the string orchestra piece *Canto V, Into the Heart of Light* (2010). In these latter compositions, the theme appears as a gesture of transcendence, as is suggested by their subtitles.

Notwithstanding idiosyncratic or private meanings in Rautavaara's individual compositions, if indeed such meanings may be found, it is easier to corroborate the influence of external circumstances to Rautavaara's stylistic choices. To understand them, we must investigate events of his personal life from the beginning of the 1960s onwards.

For a long time, from the early 1980s until the mid-2010s, anyone seeking information about Rautavaara's private life in the 1960s and 1970s would come up against a curious wall of silence from the man himself. His autobiography (Rautavaara 1989) is evasive about the time period of his first marriage, and it has been noted that not once does Rautavaara mention the names of his wife or children (Leed 1999, 32, 42–43). In the few occasions that he does refer to his marriage, he comments about the "emptiness" of that period in retrospect, even though in actuality it was full of events. "Still, that time is completely 'empty;' a blurry and repugnant mist, a rejected area." (Rautavaara 1989, 214–215.)[3]

> The relationship of that time's biographical incidents with the events in my artistic work is, in any case, minimal. Gradually I learned to detach the creative self from the private person; on a practical level, I learned to concentrate on

3. "Tuo aika on silti täysin 'tyhjä'; epäselvä ja vastenmielinen usva, torjuttu alue."

> work, to cut off the rest of my consciousness from the composition at hand, to enter its world even if a tumultuous and violent storm had raged around me. (Ibid., 215.)[4]

Rautavaara met his first wife Heidi Marjatta Suovanen (1927–2004) in February 1959 and married her in June. She became known as Mariaheidi Rautavaara. Their first son Markojuhani was born in July 1960 and their second son Olof in 1968. Their marriage lasted nearly 25 years, but from the beginning it was an unhappy one, with violence, both psychological and physical, tarnishing it from early on. (Tiikkaja 2014, 206ff.)

After the separation of Mariaheidi and Einojuhani Rautavaara in 1982 and divorce in 1984, Einojuhani Rautavaara did his best to erase his first wife completely from his life. He removed all dedications to Mariaheidi from his works. Some works he withdrew from performance, notably the soprano concerto *Meren tytär* (1970), written for Mariaheidi's voice. Likewise, many songs, such as the four songs of *Hajoaminen* (1956–57) remained unperformed during Rautavaara's lifetime—perhaps because they were, in Rautavaara's mind, too closely connected to Mariaheidi, with whom he must have played them at home. On the other hand, he probably deemed the four songs of *Die Liebenden* (1959) too valuable to be withdrawn, and from them he only removed the dedications "Maria Heidi gewidmet" which grace the covers of autograph copies.

The question still persists: how much do biographical events influence the works of an artist? Of course, every artist is unique in this respect. Rautavaara expressed doubts about any correspondence between the two, citing as an example the paintings of Vincent van Gogh, who, after cutting off his own ear and being committed to an asylum continued to paint in an ecstatically joyful manner.

> Only then is every painting full of light, color, hedonistic beauty, amazingly dizzying whirls! […] So that all those journalists to whom Beethoven's hearing loss, Sibelius's throat condition render an all-encompassing explanation of that year's *Elegia* and *Lamentoso* (even if sketches were made five years previously)—I expect them to be dumbfounded by this. (Rautavaara 1998b, 35.)[5]

4. "Tuon ajan elämäkerrallisten tapahtumien suhde taiteellisen työn tapahtumiin on sitä paitsi minimaalinen. Opin vähitellen irrottamaan luovan minän yksityishenkilöstä; ihan käytännöllisellä tasolla opin syventymään työhön, katkaisemaan muun tietoisuuden paitsi käsillä olevan teoksen, siirtymään sen maailmaan vaikka äänekäs ja väkivaltainen myrsky olisi raivonnut ympärillä."

5. "[N]iin vasta ja juuri silloin on jokainen maalaus täynnä valoa, väriä, hedonistista kauneutta, hurjan huimaavaa pyörrettä! […] Niin että kaikki ne journalistit, joille Beethovenin kuulovamma, Sibeliuksen kurkkusairaus antaa kattavaa selitystä ao. vuoden *Elegialle* ja *Lamentosolle* (vaikka luonnokset olisikin tehty viisi vuotta aiemmin), seisovat tässä hämmästyksen lyöminä, luulisin."

Later Rautavaara did allow that events of his life might influence his music. He was specifically referring to works that he produced after his near-fatal aortic dissection of 2004 (cf. Tiikkaja 2014, 573–583). In particular, *Manhattan Trilogy* (2005) and *Book of Visions* (2005) have autobiographical elements; *Manhattan Trilogy* draws inspiration from Rautavaara's time in New York in 1955–56 and *Book of Visions* from Rautavaara's childhood in wartime Helsinki, as well as his wife Sini and the aortic dissection of 2004 (Sirén 2005).

Similar in conception to *Manhattan Trilogy* is the violin-piano suite *Lost Landscapes* (2005), whose movements refer to locations of Rautavaara's youth—Vienna, New York, Ascona, and Tanglewood (Tiikkaja 2014, 588–589). "I am still of the opinion that people often perceive excessively direct correlations between music and the biography of its composer. But in these particular compositions it is justifiable," Rautavaara summed in 2005 (Sirén 2005).[6]

Rautavaara never wrote as manifestly self-referential works as Richard Strauss did in his *Ein Heldenleben* and *Symphonia domestica*. The closest that he comes to explicitly referring to himself in his music is in *Manhattan Trilogy*, *Book of Visions*, and *Lost Landscapes*.[7] Given that he built his œuvre into a vast network of compositions that often refer to each other, as is discussed in Chapter 2.5, it is of course possible that he embedded references to himself in his music—but if he did, he never pointed them out. On the other hand, his stylistic course was to some extent influenced by the events of his life, particularly his relationship with his first wife Mariaheidi, as is discussed below.

5.2 The Reception of Symphony No. 3 and a Change of Style: Arabescata

Rautavaara's Symphony No. 3 was premiered in Helsinki on 10 April 1962. As noted by Heiniö (1986a, 95–97) and Sivuoja-Gunaratnam (1997, 63–65), the Brucknerian style and tonally inflected serialism of the Symphony proved unpopular amongst newspaper reviewers. The most scathing reviews were written by those writers that Rautavaara knew best: his old piano teacher and fellow music critic at Ilta-Sanomat,

6. "Olen yhä sitä mieltä, että musiikissa nähdään usein liian suoria biografisia yhteyksiä säveltäjän elämänvaiheisiin. Mutta näissä sävellyksissä se on perusteltua."

7. If he had been able to finish the fugue on his own name, on the theme E-A-A-A-A-A, then that work would be the pinnacle of self-reference in his œuvre. But he did not; it was intended as the third movement of what eventually became *Two Preludes and Fugues* for Cello and Piano (1955). (Tiikkaja 2014, 129–130; Rautavaara 1989, 113.) Note that Rautavaara's fugue theme only contains five As instead of six, as he was writing it in 1955, when he had not yet adopted Einojuhani as his first name but was known as Eino Rautavaara.

Janne Raitio, and his old friend Seppo Nummi at Kauppalehti (Raitio 1962; Nummi 1962).[8]

Moreover, Rautavaara's friend and colleague and fellow traveller to Ascona, Erik Bergman, was strictly noncommittal in his review in Hufvudstadsbladet (Bergman 1962). Rautavaara's and Bergman's composition teacher from Ascona, Wladimir Vogel, was visiting Helsinki with his Kammersprechchor Zürich and was present at the premiere of Rautavaara's Symphony. Vogel was sharply critical of the symphony to the point that the friendship between Rautavaara and Vogel cooled and eventually ended (Sivuoja-Gunaratnam 1997, 64; Tiikkaja 2014, 229).

Rautavaara's Third Symphony thus faced criticism from all sides: from newspaper critics, from his teachers (Janne Raitio and Wladimir Vogel), and his friends (Erik Bergman and Seppo Nummi). At the same time, it must be borne in mind that Rautavaara was in the midst of a dysfunctional and violent marriage. His wife Mariaheidi proved to be the final catalyst for change in Rautavaara's output. She did not like the style of the Symphony, much less its public reception, as Rautavaara recounted in an interview that he gave to Hufvudstadsbladet a year later, in 1963.

> The reasons for the change of style are difficult to define, all of a sudden it just feels like one should write differently […]. But I must admit that my wife has helped and supported me greatly, because we had long discussions about style and expression after my third symphony, the Brucknerian. My wife absolutely did not like my style then, but was of the opinion that a more modern mode of expression would suit me better as a composer. (Rautavaara, quoted in Chydenius 1963.)[9]

Therefore, in 1962, he suddenly turned away from the world inhabited by String Quartet No. 2, *Die Liebenden*, and Symphony No. 3—a musical environment "in which the dodecaphonic technique has, to an ever greater extent, assumed the function of a repository for note and interval material that is transfigured into music by using essentially tonal laws," in the words of Rautavaara in the program note for the premiere of Symphony No. 3 (Rautavaara 1962b).[10]

8. For other reviews of the premiere of Symphony No. 3, see Kunnas 1962, Bergman 1962, Kauko 1962, Aalto 1962, Helasvuo 1962, and Sederholm 1962.

9. "Orsakerna till en stilförändring är svåra att definera, plötsligt känner man blott att man skall skriva på ett annat sätt […]. Men jag måste medge, att jag haft stor hjälp och ett viktigt stöd i min hustru, ty vi hade långa diskussioner om stil och uttryckssätt efter uruppförandet av min tredje symfoni, Brucknersymfonin. Min hustru tyckte helt enkelt inte om min dåvarande stil, utan ansåg att ett modernare uttryck skulle vara lämpligare för min kompositionsart."

10. "...jossa dodekafoninen tekniikka yhä suuremmassa määrin on saanut eräänlaisen sävel- ja intervallimateriaalin aseman, jota pohjimmiltaan tonaalisiin lakeihin nojaten hahmotetaan musiikiksi."

In lieu of those "essentially tonal laws," he began increasingly to explore the integral serial implications that *Prævariata* (1957) had already suggested. It is easy to picture Rautavaara using this very cerebral method of composing as a new and different way of escaping his unhappy day-to-day circumstances. Instead of actually leaving his wife, which seemed to have proven impossible,[11] he began to build intricate networks of notes in which he sought to control more aspects of music than ever before.

He wrote a chamber piece that he initially titled *Erstesspiel*. The ensemble consisted of a flute, bass clarinet, violin, cello, and piano; at one stage there were also plans to include a singer.[12] The method of composing was similar to that of *Prævariata*, with a series of serial variations draped over a repeating, invariant 11-bar grid. Even though *Erstesspiel* was completed, it was never released as Rautavaara transformed it into a sonata for bassoon and piano for bassoonist Emanuel Elola. Upon converting *Erstesspiel* into the sonata, Rautavaara simplified the metric intricacies of the original piece and toned down the meticulous integral serialist control, such that the piece gives the impression of a "classical" twelve-tone piece rather than an integral serial composition. These changes were dictated by the final ensemble of bassoon and piano, which is more or less monochromatic and is less disposed to dramatic dynamic fluctuations than the original chamber ensemble. The initial sonata version, however, failed to please Rautavaara, so in 1968 he revised it completely and transformed it even farther from the original *Erstesspiel*.[13]

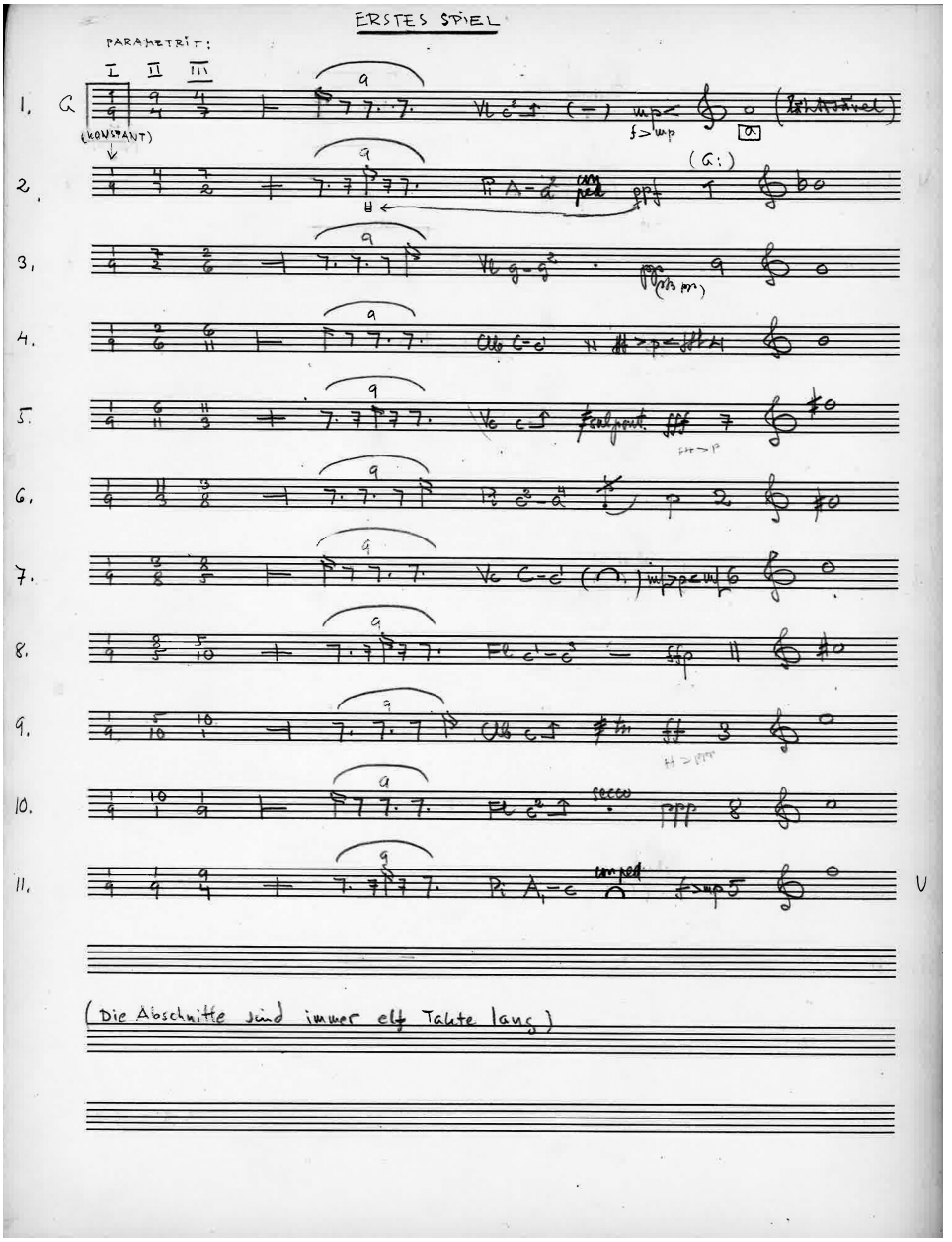
Example 5.1a shows the first 14 measures of *Erstesspiel*. The rather intricate rhythmic gestures of the opening measures (and throughout the composition) were simplified in the first version (1962) of the bassoon sonata, as Example 5.1b shows. For the final (1968) version, Rautavaara omitted the first measures of *Erstesspiel* and the earlier sonata version and began the piece with the more dynamic gestures of m. 12 of *Erstesspiel* (Example 5.1c).

Even though at least one version of *Erstesspiel* was completed, it appears never to

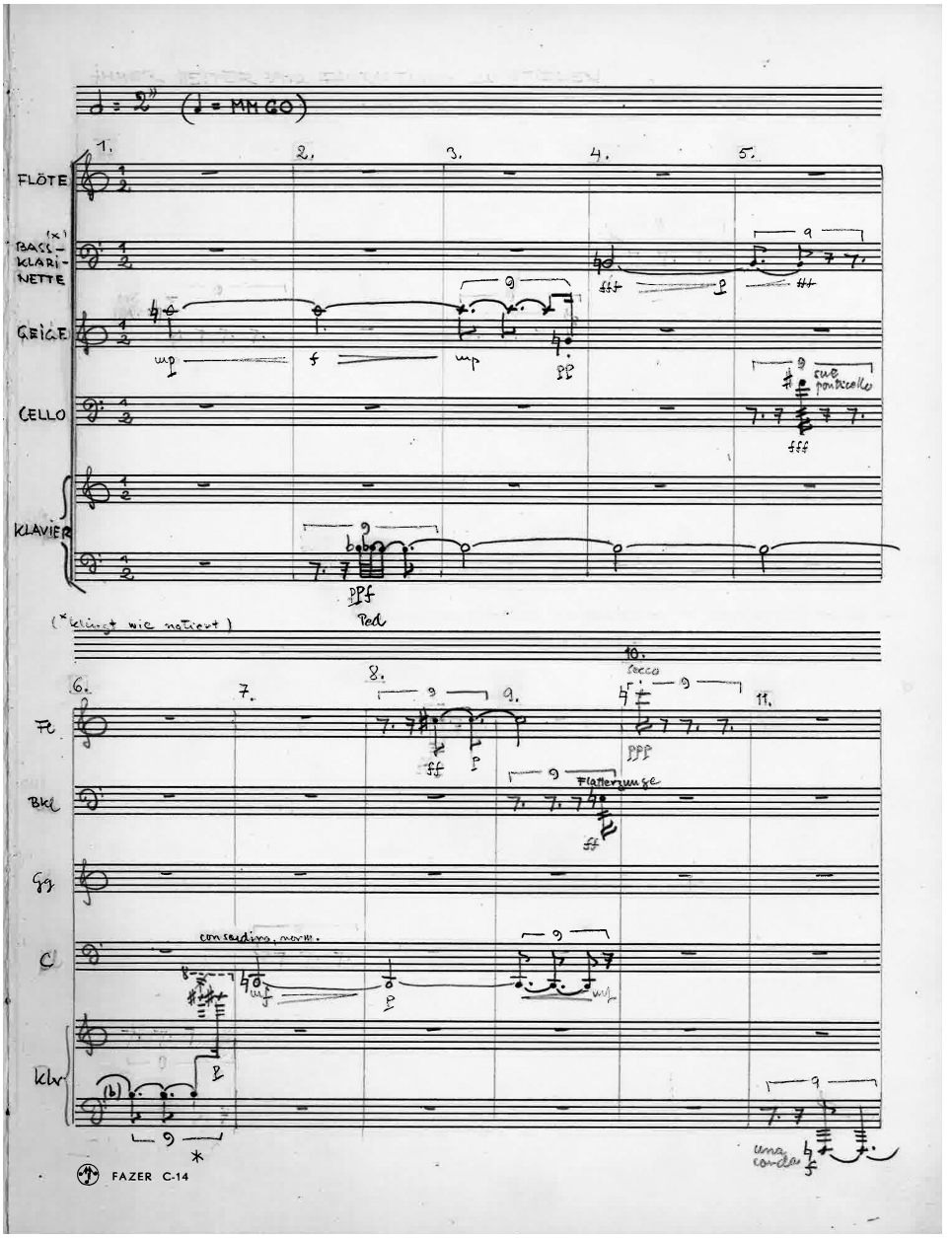
11. He had attempted to escape in the spring of 1961, traveling under an alias to Norway, where he rented a seaside cottage for himself. He was considering his next move when Maria-heidi came knocking on the door to fetch him back home—and he felt he had no choice but to obey. (See Tiikkaja 2014, 220–222.)

12. The materials for *Erstesspiel* are among Rautavaara's uncatalogued manuscripts at the Finnish National Library.

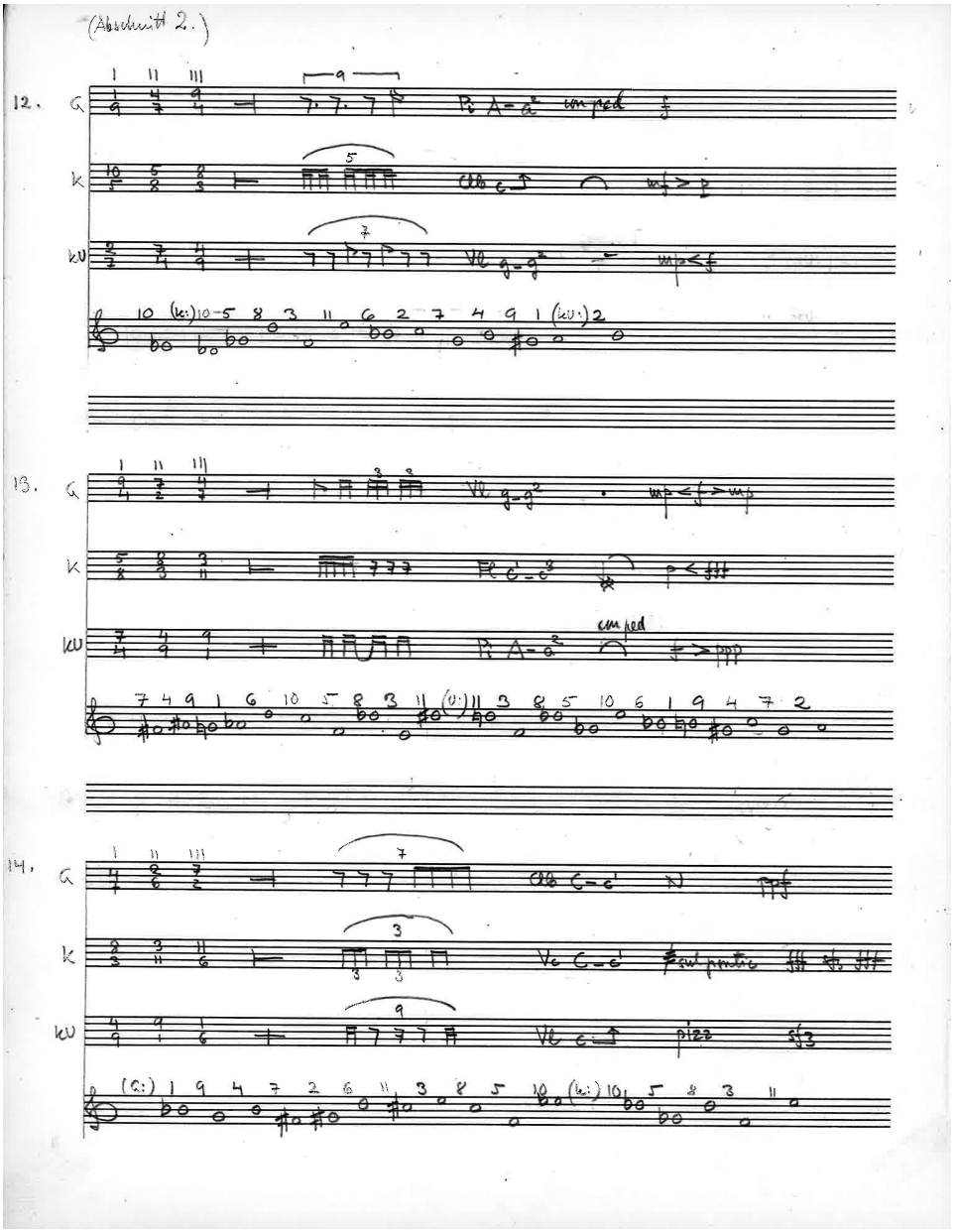
13. Rautavaara commented on the two versions of the Sonata in his diary on 29 July 1969: "Tonight I heard on the radio the—so-called—'second' sonata for bassoon. It was delighting [sic], not bad at all as I thought this old, ratched [sic] thing would sound. The old version is very, very dull and primitive. Now this is OK. Ought to be played quite differently; much faster of course, but it's maybe impossible on the instrument. Nothing to be ashamed of. The cadenza with bassoon-'chords' came out all right, only the repetitions of one and same chord must be omitted! (He [bassoonist Emanuel Elola] could not do it as was intended)." (Rautavaara 1969a). Rautavaara wrote his diary at the time in English.



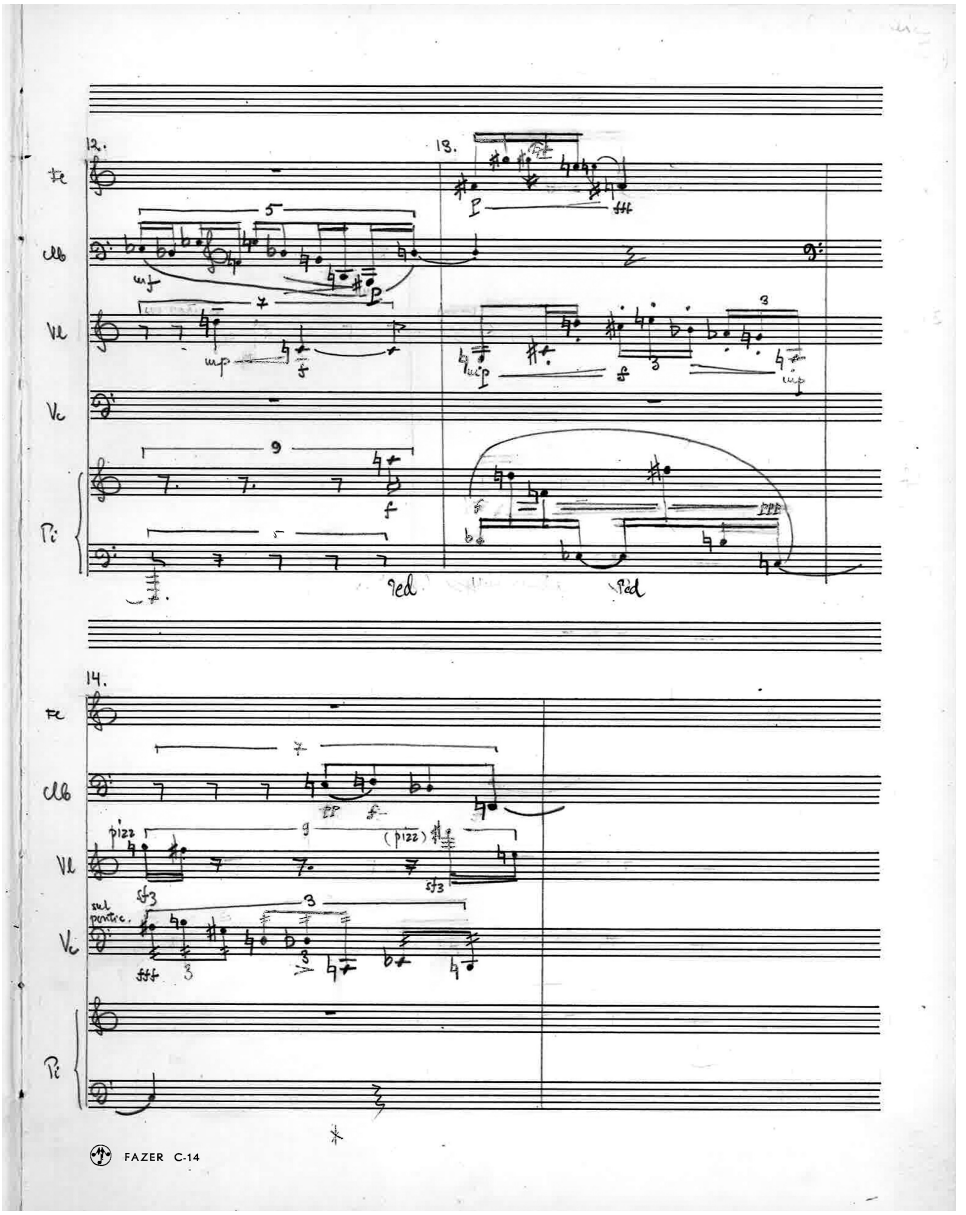
Example 5.1a. Rautavaara's templates for the first 11 measures of Erstesspiel. The information contained in this template is written out on the following page. All the measures of the piece are executed from similar templates. The manuscript contains the templates on the left page of each spread, and the music on the right page.



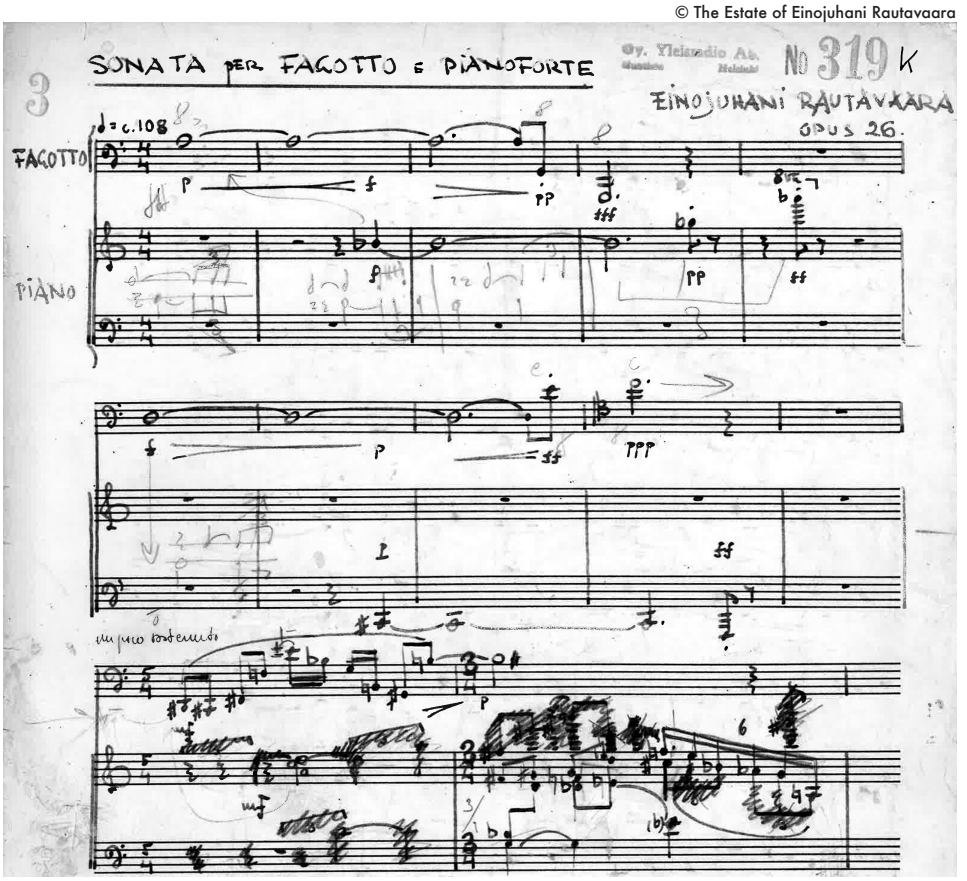
Example 5.1a (cont.). Erstesspiel, measures 1–11, written from the template on the preceding page.



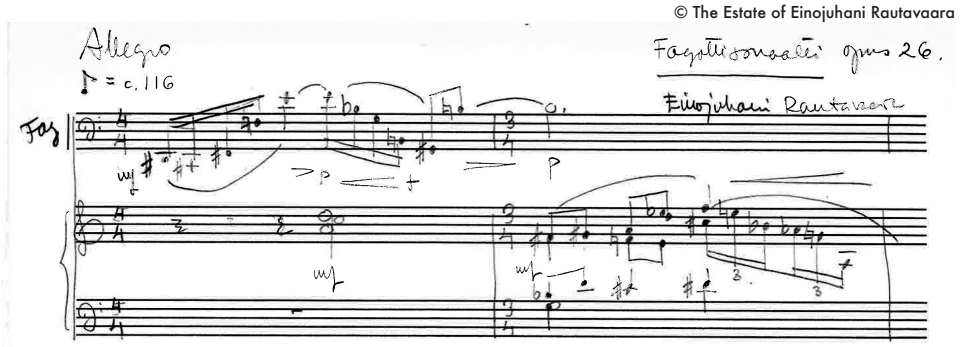
Example 5.1a (cont.). The template for measures 12–14 of Erstesspiel.



Example 5.1a (cont.). Erstesspiel, measures 12–14, written from the template on the preceding page.



Example 5.1b. Sonata for Bassoon and Piano, 1962, mm. 1–12. As indicated by the stamps at the top of the music, Rautavaara used a copy owned by the Finnish Broadcasting Company in sketching out changes for a revised version.



Example 5.1c. Sonata for Bassoon and Piano, 1968, mm. 1–2. The revised version omits the slow introduction of the previous version and Erstesspiel and begins instead on the faster motives that originally appear in m. 12 of Erstesspiel and m. 11 of the 1962 version of the sonata.

have been performed as it was supplanted by the bassoon sonata. Of greater consequence than *Erstesspiel* was *Arabescata*, a four-movement composition for orchestra that was also finished in 1962.[14] In the same integral serial vein as *Erstesspiel*, this composition is without a doubt the most technically complex composition that Rautavaara ever completed. He sought to control as many aspects of the piece as possible by extending the basic twelve-tone row to govern such parameters as dynamics, timbres, and rhythms. As a basic kernel, he wrote a retrograde-inversionally symmetrical twelve-tone row which is at the same time an all-interval row.

Rautavaara chose the interval content of the series as the platform for codifying the different parameters; as no intervals are repeated within a given series-form, it will yield the maximum amount of variance to the texture. Furthermore, using the intervals instead of pitch-classes as a basis for programming the various parameters yields a practical benefit; one must only categorize 11 timbres or dynamic steps instead of 12. Accordingly, it is easier to assemble the orchestra—though even with 11 (instead of 12) distinctive timbres needed for each of the instrument groups the ensemble will be complex.[15] With respect to dynamics, it is difficult to establish discrete steps within the dynamic spectrum so that the differences between the levels will be audible, so even having 11 of them is preferable to 12.

Once Rautavaara had coded the different parameters of the texture, he made up rules for applying them in the actual music and used slightly different procedures in each of the movements. In *Arabescata I*, the first movement, the operations are meticulously preplanned. The backbone of the music is formed by a steady quarter-note pulsation on the strings, undulating slowly between low and high registers. The movement consists of 12 three-bar phrases, each of which contains a complete series-form on the strings. On top of this constant framework, the other instrument groups supply more active layers of sound that still seem to retain a sense of mechanistic precision. This is because they each make use of their own, distinct form of the interval series—which, as has been established, controls several parameters of the music. The prime form of the series controls the actions of the percussion instruments; the inversion controls the keyboards and harp, the fifth series controls

14. Kalevi Aho's *Einojuhani Rautavaara as Symphonist* (1988) has provided me with much of the information concerning *Arabescata*, as have Anne Sivuoja-Gunaratnam's *Rautavaaran sarjallinen projekti* (1993) and *Narrating with Twelve Tones* (1997). See also Vidjeskog (1991). Because the music and circumstances of *Arabescata* have been so extensively analyzed in these studies, a further analysis of the techniques used in *Arabescata* in the present study is not necessary; rather, my discussion pertains to aspects not discussed in them.

15. For example, in the woodwind section alone, eleven different instruments are required. These include piccolo, flute, alto flute, oboe, corno inglese, piccolo clarinet, clarinet, bass clarinet, alto saxophone, bassoon, and contrabassoon.

the woodwinds, and the fourth series (inversion of the fifth series) controls the brass instruments.

In *Arabescata II,* Rautavaara set out to explore further the mechanics of predetermination in an integral serial system. To this end, he laid out various parameters on a graph, with durations on the y-axis and the various instrumental groups (timbres) and dynamics on the x-axis. He then assigned values on the graph by drawing various pictures on it. He experimented with several different images but settled on five quite different images that yielded the most satisfactory results and linked them back to back.[16]

A still different take on pre-variation inherent in Rautavaara's integral serial technique is presented in *Arabescata III*. As in the preceding movements, the music of *Arabescata III* is governed by far-reaching serialization. In contrast, however, each of the five sections of this movement is assigned a multiplier that determines the number of simultaneous musical events—instead of the graphs of *Arabescata II* and the more detailed predetermination of *Arabescata I*. Furthermore, there are no preordained rhythmic units, but the composer defined several symbolic shapes that the actual motifs of the music are made to resemble.

Finally, *Arabescata IV* takes the music into the realm of aleatoricism. Like the previous movements, *Arabescata IV* is divided into clearly distinguishable sections, but this time, the composer leaves the internal order of those sections to be decided by the conductor. For each of the ten sections, Rautavaara has written fragments of music for each of the instrumental groups, and while everything must be played and the overall ordering of the ten sections cannot be mixed, the performers are free to mix the predetermined fragments within those sections. In contrast to the preceding movements, the music is not serial as such, although the pitch material resembles greatly that of *Arabescata I*.

This complex, densely-packed music has the potential to baffle any listener that happens to come by it, especially if that listener comes with the determination to follow through every serial operation, every series-form, and timbral fluctuation that is written into the music. However, the objective of its composer was exactly the opposite. Rautavaara packed his *Arabescata* so full of details and so full of overlapping processes because he clearly intended that the profusion of details would blend into larger shapes and variations of intensity in the mind of the listener. The listener was never even meant to be aware of which series-form the composer happens to be using

16. Rautavaara's sketches, housed at the Finnish National Library, contain several different images drawn by him, obviously with the aim of experimenting their musical applicability, but later rejected.

at any given time. The four movements of *Arabescata* clearly seek different ways of achieving larger shapes, arches of intensity that will carry through whole movements, not just sections that might last for three bars, as is the case with *Arabescata I*, or half a bar, as is the case with "Zigzag" of *Arabescata II*.

As he himself wrote among the sketches of the piece:

> The significance of the pitch series diminishes:
> 1)
> – The individuality of single 12-tone rows diminishes as several horizontal rows are used simultaneously
> – when using duration rows, the intervals will be determined by the automatism that follows from the procedure and their function will be paralyzed by the resulting complex.
> (the contradiction of the serial principle: the more directives are used, the more difficult it is to determine the resulting structure—the more one tries to influence the result, the harder it is to use elementary orderings and relationships.)
> 2)
> – The shape character of the pitch row is replaced by pure chromaticism, which will function as a regulator for the even spacing of pitches (Stockhausen: Klav. Stück Nr 2).
> – *The structure is no longer formed by intervals but relationships of density, divisions into areas, the devising of vertical complexes etc* (Nono: Cori di Didone)".[17]

Arabescata was composed at a time when Central European modernism was rapidly being introduced to Finnish musical life—*Arabescata* was in fact one of the vanguards of the movement. The pace of assimilation was remarkably fast. It had taken basic twelve-tone composition nearly 40 years to be introduced to Finland. Now the same composers (most significantly, Bergman and Rautavaara) who had imported dodecaphony were following it through to integral serialism within a decade of that technique's inception (Boulez's *Structures I* had been released in 1952). At the same time, a slightly younger generation of composers was importing influences from John Cage's brand of musical performance, often accompanied by a keen nose for scandals. (cf. Heiniö 1988, 25–28.)

17. "Sävelkorkeusrivin merkitys vähenee: 1) – yksityisten 12-sävelrivien yksilöllisyys häviää käytettäessä lukuisia horisontaalisia rivejä yhtaikaa. – kestorivejä käytettäessä tulevat intervallit menettelystä seuraavan automatismin määräämiksi ja niiden funktio syntyvän kompleksin paralysoimaksi. (Sarjallisen periaatteen kontradiktio: mitä enemmän direktiivejä käytetään, sitä vaikeampi on syntyvää struktuuria determinoida – mitä enemmän tulokseen koetetaan vaikuttaa, sitä vaikeampaa on käyttää elementaareja järjestelyjä ja suhteita.) 2) – sävelkork. rivin hahmokaraktääri korvataan esim puhtaalla kromatiikalla, joka toimii sävelkorkeuksien tasaisen jaon regulaattorina (Stockhausen: Klav.stück Nr. 2). – struktuuria eivät enää muodosta intervallit vaan tiheyssuhteet, aluejaot, vertikaalien kompleksien rakentelu etc. (Nono: Cori di Didone)." Emphasis added in the translation. As with many other manuscript materials mentioned in this chapter, a signum for these sketches cannot yet be supplied; they are however available at the Finnish National Library.

Arabescata was part of a scandal of its own, as has been detailed by Mikko Heiniö (1986a, 105) and Anne Sivuoja-Gunaratnam (1997, 80–82). Finished in the autumn of 1962, it was scheduled for performance by the Finnish Radio Symphony Orchestra in November of that year, with Paavo Berglund conducting. However, the performance was postponed until February 1963. When the time for that performance came, it was Rautavaara himself who conducted the piece, while Berglund took care of the rest of the program.[18]

Now, the matter might have rested at that, but in an interview that was published on February 6 in a Swedish newspaper, *Svenska Dagbladet*, Rautavaara let it slip that a certain conductor had derided a composition of his upon learning that it was based on figures drawn on a graph (Hellquist 1963).[19] The statement was soon picked up by the Finnish Helsingin Sanomat, with Berglund's name included and a scandalous headline: "Composer Accuses Conductor of 'Complete Negligence'" (Helsingin Sanomat 1963a). The next day, the article was followed up by an article with an equally inflammatory headline: "Berglund Disparages the Modernists: There are Clear Reasons for Negligence" (Helsingin Sanomat 1963b).

The "negligence" of which Rautavaara accused Berglund had to do with the graphs of *Arabescata II*; Berglund supposedly had refused to acquaint himself with them. Berglund responded by saying that he did not care to peruse them, because Rautavaara had not stressed their importance to him and because he had been trained to read music, not graphs. Both admitted that being familiar with the graphs was in no way a requirement for performing the music, since they did not contain any information that was not in the actual notes derived from them (Uusi Suomi 1963). In other words, much ado about nothing.

During the winter of 1962–63, Jorma Panula came to Rautavaara's rescue by assuming the conducting duties for *Kaivos*, which was finally getting closer to an actual performance. However, the performance would not be on the stage of the National Opera, but in a TV studio and the product would be a TV opera. Berglund was initially going to conduct the music, but the dispute between Rautavaara and Berglund caused the latter to withdraw.

Sivuoja-Gunaratnam (1997, 82) has speculated about the reason for the break between Rautavaara and Berglund. She wondered whether the atmosphere within the FRSO was so inflamed that somehow it was prone to scandal, or whether the rift

18. Besides *Arabescata*, the program included Brahms's Symphony No. 2 and Respighi's *Toccata*.

19. Rautavaara was one of four young Nordic composers interviewed for the article. The other three were Lars Johan Werle, Per Nørgård, and Arne Nordheim. They all answered the same questions.

reflected the distance between avant-garde composers and public music institutions.

Publicly, the two men chose their sides and built forts around them with the willing help of the scandal-hungry press; the composer blamed the conductor of "complete negligence," the conductor responded that there were clear reasons for that negligence. And there *were* clear reasons, but not musical ones, Rautavaara revealed later. "It was completely devised by Madame Mariaheidi, she had some kind of a grudge against Berglund. I don't remember the reason for the schism, but she made me forbid Berglund from conducting." (Rautavaara & Panula 2007.)[20]

A year earlier, on 10 April 1962, Berglund had conducted the premiere of Rautavaara's Symphony No. 3. It seems clear that Rautavaara and Berglund found their experience with Symphony No. 3 mutually satisfactory, because soon afterwards, Berglund was meant to conduct more music by Rautavaara (the premiere of *Arabescata* was originally scheduled for November 1962 and the recording of *Kaivos* began in December).

Rautavaara ended up conducting *Arabescata* himself.[21] With dry wit, he notes in his autobiography that "a sensible person would have at least asked for a crash course in conducting technique from Jorma Panula. Not me. Instead I perused sir Henry Wood's book *About conducting* […] In the first rehearsal, the orchestra looked at my performance with profound disbelief" (Rautavaara 1989, 236–237).[22]

The performance, however, went reasonably well. In stark contrast to Symphony No. 3, *Arabescata* was received in the press with praise all around. The complexity of the piece was duly acknowledged, but it was felt to be infused with "sincere emotional charge," in the words of one critic. *Arabescata* was compared with Symphony No. 3, to *Arabescata's* advantage. (Kunnas 1963; Salmenhaara 1963; Vuorenjuuri 1963.)

20. "Se oli kokonaan Madame Mariaheidin systeemi, hänellä oli jotakin kaunaa Berglundia kohtaan, joten hän masinoi tällaisen jutun. En muista, mistä skisma johtui, mutta hän pakotti minut kieltämään Berglundia johtamasta." Later Rautavaara recalled (private communication to the author) that Mariaheidi and Berglund had had an affair of some sort in the 1950s. This Rautavaara had been told by Mariaheidi herself. The end of such an affair could certainly have aroused mutual resentment. In a telephone conversation with the author in 2007, Paavo Berglund no longer recalled if there had been any rifts between him and Mariaheidi—nor did he recall much of the controversy surrounding *Arabescata*.

21. The performance took place on 26 February 1963.

22. "Järkevä henkilö olisi ainakin pyytänyt vaikkapa Panulalta parin tunnin pikakurssia lyöntitekniikassa. En minä. Sen sijaan tutkin sir Henry Woodin kirjaa 'About conducting' […] Ensimmäisessä harjoituksessa orkesteri katsoi esitystä syvän hämmästyksen vallassa[.]"

5.3 Unfinished Serial Projects: Nuages, Duineser Elegien

For the basic material of his next project, Rautavaara took Claude Debussy's *Nuages*, the first movement of the orchestral *Nocturnes*. He intended to derive his own composition from the Debussy composition by means of complex transformations.

> The twelve instrument groups of the Debussy score would serve as a starting point for the piece's 'rules,' as I called them. The intervals between its tones would determine, by applying a certain method, the durations, Debussy's durations would determine the pitches, density would determine the dynamics, etc. […] No parallels, recognizability on a musical level would exist, Debussy would merely guide the structure. (Rautavaara 1989, 239.)[23]

The method entailed painstaking labor for the composer. This piece was possibly in the works in August 1963, when he gave an interview to Hufvudstadsbladet, but he did not seem daunted by the amount of work that integral serialism demanded: "It is typical of my creative process that preparations take longer and longer for each new work. Today I hardly ever compose at the piano; the desk is my central working place." (Hufvudstadsbladet 1963.)[24]

Soon, however, a sense of disbelief set in. Rautavaara started to doubt the validity of the working method and realized that he did not really like the composition that was painfully slow in emerging.

> When only a few pages were written, very slowly, with the help of tables and matrices, as a painfully complex process, one could see that the distance to the sounding result was barely recognizable. I noticed that I was an accountant of some sort, a chronicler of an activity that I myself could not control, having once initiated it. The project remained unfinished. (Rautavaara 1989, 240.)[25]

23. "Debussyn partituurin kaksitoista soitinryhmää olisivat yksi lähtökohta teoksen 'pelisäännöille', kuten niitä kutsuin. Sen äänien väliset intervallit määräisivät tietyllä metodilla sävelpituuksia, Debussyn sävelkestot taas sävelkorkeuksia, tiheys dynamiikkaa jne. […] Mitään yhtäläisyyttä, tunnistettavuutta ei musikaalisella tasolla olisi, Debussy vain ohjaisi struktuuria."

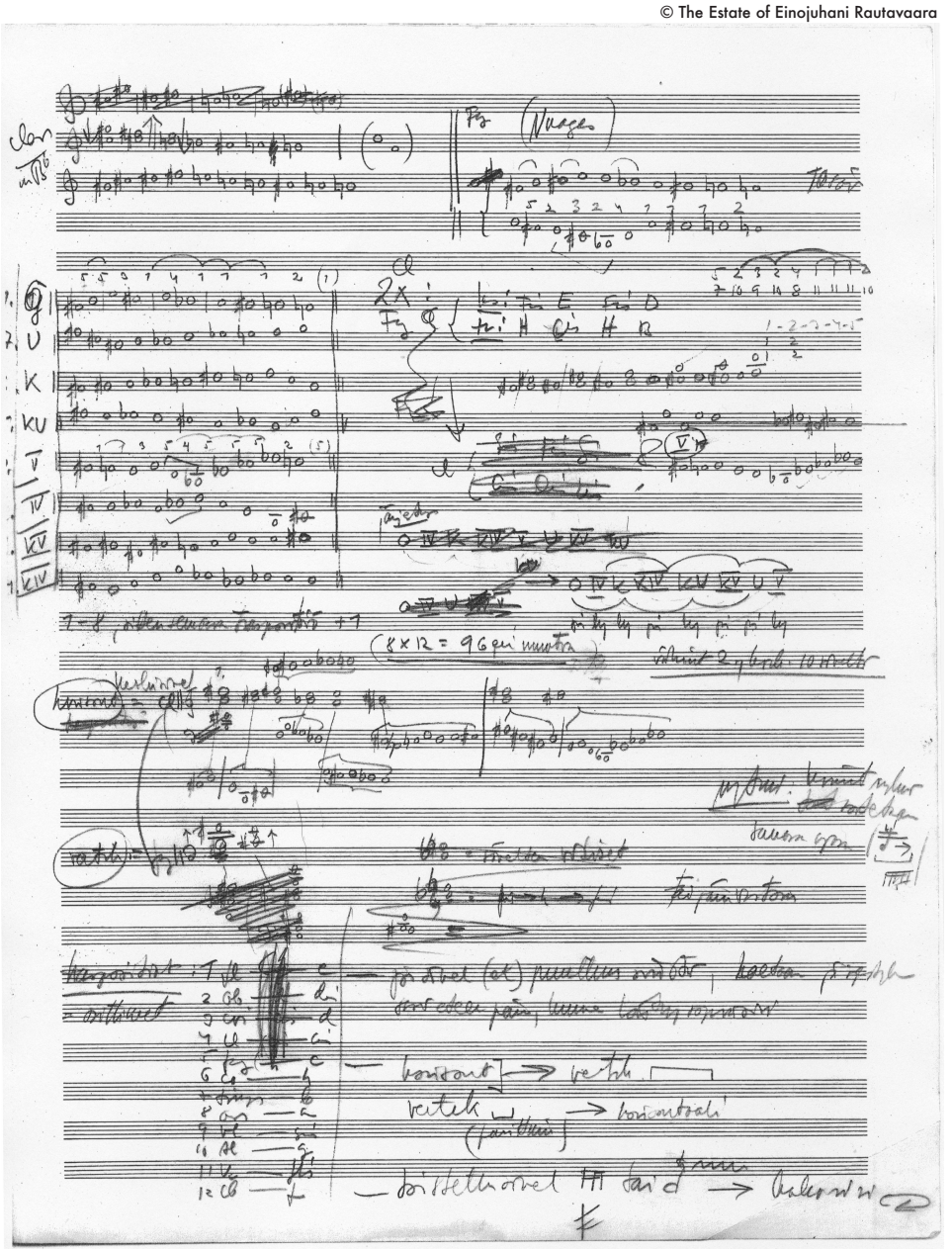
24. "En typisk tendens i mitt skapande arbetet är att förarbetet tar längre tid för varje nytt verk. I dag komponerar jag inte just alls vid pianot, utan skrivbordet är min centrala arbetsplats."

25. "Sillä kun siitä vasta oli muutama sivu kirjoitettu, hyvin hitaasti, taulukoiden ja matriisien avulla, tuskallisen monimutkaisena prosessina, saattoi huomata että etäisyys soivaan tulokseen oli tuskin enää aistien voitettavissa. Huomasin olevani eräänlainen kirjanpitäjä, sellaisen aktiviteetin kronikoitsija, jota itse en enää ollenkaan pystynyt kontrolloimaan kun sen kerran olin käynnistänyt. Yritys jäi kesken."

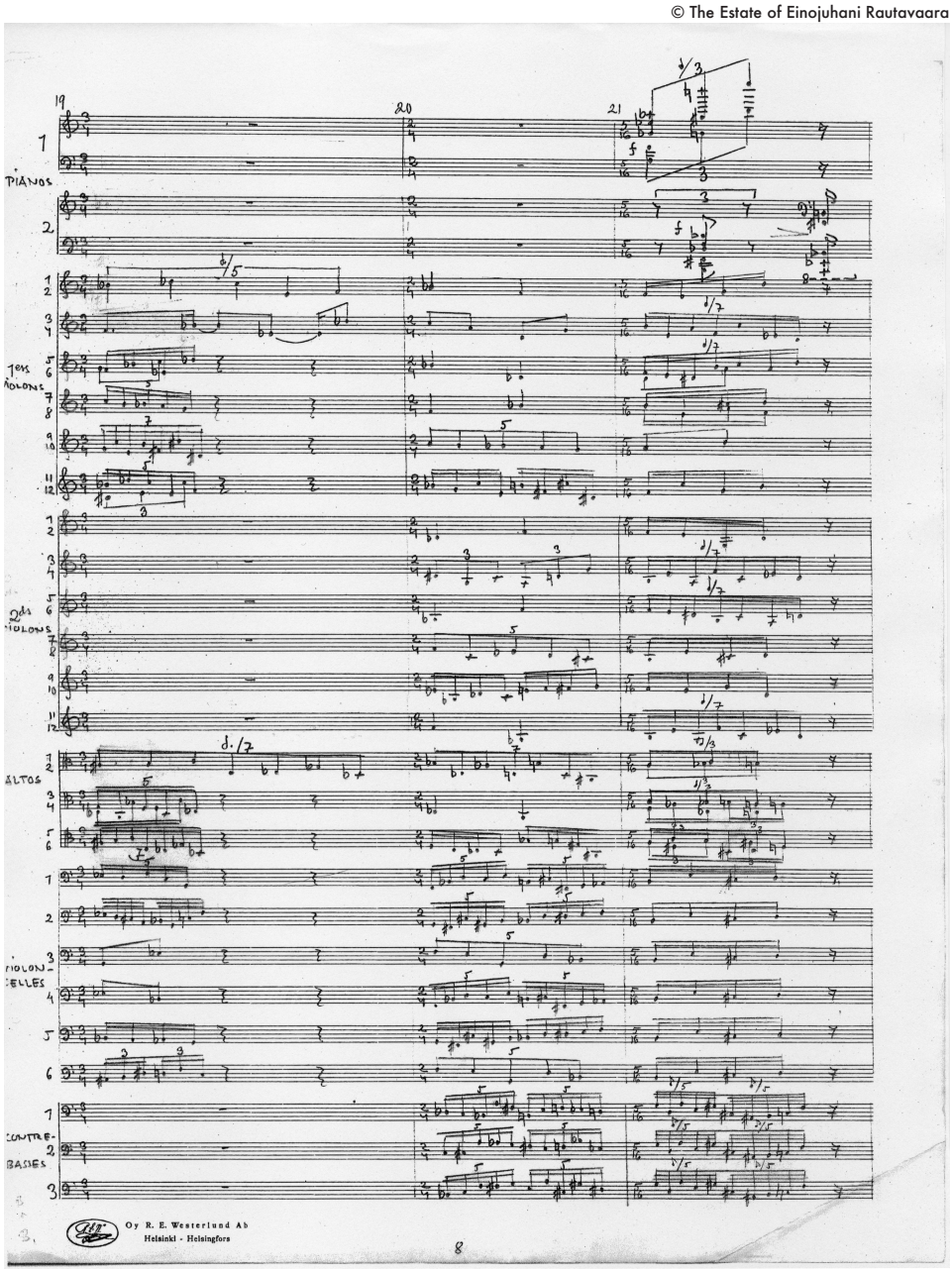
Sketches for "Nuages" remain among Rautavaara's manuscripts. In addition to serial matrices and other sketches (see Example 5.2a), there are some written-out pages of music. The most extensive stretch of music contains 21 measures, after which pages are missing—or none were ever written. Example 5.2b shows the last extant page of music for "Nuages." As the example shows, Rautavaara wrote complex overlapping rhythmic structures that would create intricate, even stochastic-sounding sonic masses when played.

There were several similar projects, but none were completed. For example, Rautavaara tried to begin a piece inspired by Rilke's *Duino Elegies*. For this work, he also worked out rules for serial operations that he would apply for this piece's 13-note row. He filled page after page with sketches, tirelessly laying out groundwork for intricate serial operations (see Example 5.3 for one such page), but few of the plans proceeded to the actual stage of writing out the music.[26] He faced a creative crisis yet again.

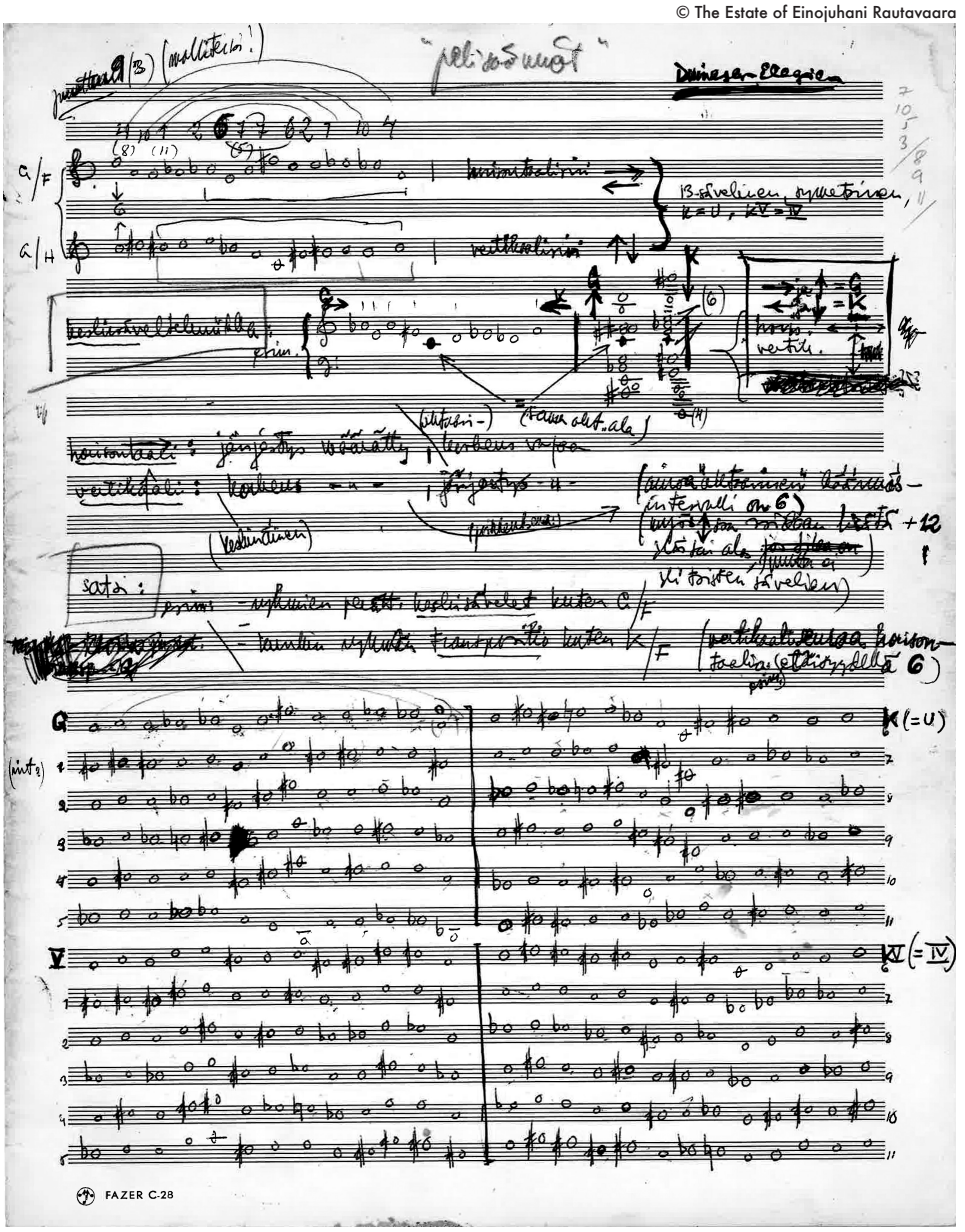
26. There are no dates on the sketches of any of these pieces, including "Nuages" and "Duineser Elegien". Therefore, we cannot be certain of the chronology between these two pieces, but it seems likely that they were planned quite close to each other. Perhaps the Debussy piece was planned first, because some of the music was actually written. As that piece was aborted, Rautavaara would then have tried his hand with a different composition of the same kind—but as far as I can tell, no music was written beyond the initial rules.



Example 5.2a. A sketch page for “Nuages.”



Example 5.2b. "Nuages," mm. 19–21. These are the last completed measures of the composition that Rautavaara wrote—or the last to have survived.



Example 5.3. A sketch page for "Duineser Elegien."

5.4 Unfinished Symphonies: The Many Attempts at Symphony No. 4

Rautavaara's creative crisis was exacerbated by a crisis in his personal life. His marriage had evolved into a violent nightmare that effectively killed his creativity (cf. Tiikkaja 2014, 245ff).[27]

> A sense of pressure set in. She was able, gradually and undetected, to isolate me from the world, so that I did not really leave the house and I resigned from my job [at the Helsinki Philharmonic]. And we had no income. We lived off my inheritance for many years. It led to… a Chinese proverb says that if a dragon is imprisoned, it goes insane. And this dragon did go insane. I tried to kill her. (Rautavaara 2006c.)[28]

> She had returned from a concert trip during the night and was very nervous in the morning. I had been cooking and looking after the children with no opportunity for composing. For some reason, any reason, a great argument broke out and I ran out of the room, down the stairs—but I hear her pursuing me, screaming like a lion. I only want to get out, away, quickly and very far away. Down the basement stairs towards the garage. But the screaming follows and gains ground—this person who has the upper hand, whom I fear, who humiliates, whose very existence humiliates me… So through the basement to the garage door—and there are tools on the wall, saws and axes. But it gains on me—I'm in panic—I can't make it to the car! In a state of panic terror I grab an axe and swing it just as she enters through the door… (Rautavaara 2008.)[29]

27. The relationship of Einojuhani and Mariaheidi Rautavaara seems to have been a perverse tangle of verbal, psychological, and physical abuse between two people who were extraordinarily incompatible. At the root of the marital dysfunction was their mutual resentment of each other: He felt that she had tricked him into the marriage on the basis of being pregnant (and miscarrying soon after their wedding in the summer of 1959). She, on the other hand, felt that she had to sacrifice her career as a singer because of him—she had to turn down an offer to sing *Lohengrin's* Elsa at the Bayreuther Festspiele in 1960, because she was again pregnant, and gave birth to their first son Markojuhani in July 1960. Within a few years, the marriage descended into violent outbursts—on both sides—and psychological torture. They did not get divorced until 1984, but of course the battle scars from their violent marriage were visible for the rest of their lives. For instance, in photographs from the 1970s onwards it is easy to see Einojuhani's lip and right eye drooping. The eye injury was sustained in 1968 and was not merely cosmetic; his ophthalmic nerve was injured and therefore his eyesight was severely impaired. His hearing was damaged; a blow to his left ear resulted in the loss of high frequencies in that ear. For more information, see in particular Chapters 6–8 of my biography of Rautavaara (Tiikkaja 2014, 195–314).

28. "Minä ajauduin sellaiseen paineeseen. Hän vähitellen huomaamatta pystyi eristämään minut maailmasta, että minä en esimerkiksi edes käynyt juuri missään ja lähdin pois siitä virasta. Ja ei ollut minkäänlaisia tuloja. Omaisuudella elettiin monta vuotta. Se johti siihen että... kiinalainen viisaus sanoo että jos lohikäärme vangitaan, se tulee hulluksi. Ja tämä lohikäärme tuli hulluksi. Yritin tappaa hänet."

29. "Hän oli yöllä palannut konserttimatkalta ja aamulla erittäin hermostunut. Minä taas olin laittanut ruokaa, vahtinut lapsia, vailla mahdollisuutta säveltämiseen. Siis ärtynyt ja masentunut koko tilanteesta. Jostain, mistä tahansa, alkoi mahtava riita, jossa koulutettu ääni

Mariaheidi survived the attack (Tiikkaja 2014, 249). As she recuperated, she began to exact revenge on Einojuhani. First, she ordered him to cease composing completely, and he acquiesced, driven by guilt and fear (ibid.)—this lasted, according to Rautavaara, for at least a year. There were further violent episodes, physical violence being initiated by Mariaheidi as well as Einojuhani, and the result was nothing short of a domestic hell for all involved: Einojuhani, Mariaheidi, and their children (ibid., 249–250).

Rautavaara probably still felt obligated to fulfill such commissions that had already been agreed upon. For instance, the Helsinki Philharmonic Orchestra premiered Rautavaara's Symphony No. 4, the original version, on 26 February 1965.[30] He eventually managed to supply a symphony for the orchestra, even though he was not able to actively compose at this time, either because he had been pressured by his wife into giving up his work, or simply because his creativity had died in the midst of his emotional turmoil.

As the multi-serial operations of "Duineser Elegien," "Nuages," and other such projects had turned out to be a dead end for Rautavaara, he turned to the direction that was suggested by *Arabescata IV*. He started to plan a symphony and took the aleatoric principle of *Arabescata IV* as a starting point. He dated this piece on 10 May 1964 and inscribed a heartfelt dedication to Mariaheidi on the title page. Maybe he even wrote the title page with the dedication and the name "Symphony No. 4" before a single note was written. He started a furious sketching of orchestral events, writing, erasing, and revising minuscule details; he wrote several pages—and discarded the project.

The emotional dedication of the piece was certainly an act of repentance on the part of Rautavaara, similar in tone and function as the dedication of a song cycle that

alkoi saada yliotteen, kuten tavallista. Jotain ratkesi ja minä juoksin ulos huoneesta ja portaita alakertaan – mutta kuulen miten hän lähtee takaa-ajoon, kiljuen kuin jalopeura. Haluan vain päästä ulos, pois, nopeasti ja kauas. Kellarin portaita yhä alaspäin kohti autotallia. Mutta kiljunta seuraa ja lähenee – tuo ihminen jolla on yliote, jota pelkään, joka nöyryyttää, jonka koko olemassaolo nöyryyttää… Siis kellarin läpi autotallin ovelle – ja siinä ovat työkalut seinällä, sahat ja kirveet. Mutta se saavuttaa jo – olen paniikissa – en ehdi autoon! Paanisen kauhun vallassa tartun kirveeseen ja isken juuri kun hän tulee ovesta…"

30. Documentation of this period in Rautavaara's life is rather sketchy and incomplete, thus the genesis of Rautavaara's Symphony No. 4 cannot easily be corroborated from his correspondence or even official documents. The Helsinki Philharmonic has no record of commissioning Rautavaara's Fourth Symphony, even though it surely must have been commissioned—otherwise Rautavaara would certainly not have put in all the effort that he did to compose the symphony. Possibly it was agreed upon, without a written contract, by Rautavaara and his old friend Jorma Panula, who was the orchestra's visiting chief conductor in 1964–1965 before officially taking the post in June 1965 (Marvia & Vainio 1993, 604–605). Panula conducted the Symphony's premiere in February 1965 (ibid., 742). In 1986 Rautavaara informed Mikko Heiniö that Symphony No. 4 was a hurried commission and that the result was not satisfactory, even when revised. (Heiniö 1986a, 106.)

he composed to poems of Bo Setterlind in 1962.[31] This 14-song cycle, *14 sånger till dikter av Bo Setterlind* ("14 Songs to Poems of Bo Setterlind"), appears never to have been performed or published as such. However, it became a basis for several other compositions, such as the shorter cycles *Maria i Norden* ("Mary in the North") and *Guds väg* ("God's Way") as well as the *Independence Cantata*. As for the designation of the piece as "Symphony No. 4" at such an early stage, this was no doubt prescribed by a commission for a symphony from the Helsinki Philharmonic Orchestra. The premiere was scheduled for February 1965, and by May 1964 Rautavaara probably felt uneasy about being so close to the performance of a sizable piece and not even having an idea, let alone a single note of actual music for it.

Thus, an aleatoric fourth symphony did not work out. Rautavaara also tried his hand at a completely different piece, apparently managing to complete only a few bars before giving up and resorting to a piece of music that had troubled him for years. Its first incarnation had been *Apotheosis* for piano, written as early as 1957. In 1960, Rautavaara had adapted the music for violin and piano, and had tinkered with several different versions in the following years; there were versions for violin and orchestra, string quartet, and string orchestra. In 1962, he orchestrated at least some of the music for large orchestra and wrote "Sinfonia IV" on the title page—but this version was never performed.[32]

Now, at pains to produce a symphony to fulfill the commission, he again looked at *Apotheosis* and turned it into the first movement of a new symphony, a piece that he did manage to complete, perhaps because most of it was already written. He re-scored the music for four orchestral quartets; as he was always fond of symmetry, he probably found the symphony's ordinal number intriguing and decided to have the orchestration reflect it (Rautavaara 2002a). The quartets included four woodwind instruments, four brass instruments, four percussion instruments, and four groups of strings (with no division into first and second violins). The symmetrical principle applies on several other levels of the first movement as well, including the structure of the twelve-tone series that is used and some aspects of the overall form.

The same can be said of the second movement of the two-movement symphony. To follow *Sonata* (as he christened the first movement), Rautavaara took *Prævariata*,

31. "These dedications were attempts at patching up a certain conflict, although unsuccessful as such. They were not intended to be public, nor were they to be included in publications," Rautavaara commented later. (Rautavaara 2005; "Nämä omistukset olivat tietyn konfliktitilanteen paikkailuyrityksiä, epäonnistuneita kylläkin. Niitä ei ollut tarkoitettu julkisiksi eikä julkaistaviksi.")

32. Neither the string quartet version nor any of the orchestral versions (except the final one) of the music have survived in complete form, so it is difficult to say whether they were actually completed.

written at roughly the same time as the original *Apotheosis*. Besides rescoring *Prævariata* for the four quartets of the orchestra, he added a new variation near the end of the movement and named the whole movement as *Variazioni*. As in *Sonata*, the twelve-tone series of *Variazioni* (and *Prævariata*) is symmetrical, and, as in *Sonata*, the opening gestures are retraced in the end of the movement. This lends both movements a quasi-symmetrical feel, even though they are not strictly so.

Rautavaara had managed to scrape up (in 2 months, according to an interview; Ilta-Sanomat 1965) a symphony in time for the premiere on 26 February 1965. Although the performance garnered good reviews,[33] when the composer heard the music he found he did not like it and soon withdrew the piece (Rautavaara 1989, 238). Something of the difficult circumstances surrounding the symphony can be sensed from the comments that Rautavaara gave in an interview immediately preceding the premiere: "Most of the issues connected with the new symphony remain exclusively between me and my composition and will not, by their very nature, be of interest to the public that listens to it. […] All I can say, besides plain facts, is that composing it was vitally important to me as an artist at this moment" (Heikinheimo 1965).[34] In another interview, given jointly by Einojuhani and Mariaheidi shortly after the premiere, Mariaheidi confided that Einojuhani had had serious doubts about the symphony before the premiere and had considered withdrawing it before the performance (Ilta-Sanomat 1965).

5.5 Other Reworkings of Previous Compositions

In addition to the completed first version of Symphony No. 4, Rautavaara resorted to previously written compositions to fulfill commissions for new works. On 4 December 1964, Mariaheidi sang as soloist in an orchestral version of *Die Liebenden*. As there was already a version for string orchestra and soloist, making a version for full orchestra probably required little effort. It is unclear whether the two choral songs composed in 1965 were newly written or recycled from previous compositions; the Laulu-Miehet male choir had commissioned a piece from him (called *Syksy virran suussa*; Autumn at the River Mouth) that he delivered in October 1965 and at approximately the same time he wrote a piece for The Radio Chamber Choir as well. For this piece, *Lu'ut* (Chants), Rautavaara took the text from the *Kalevala* and started

33. See Englund 1965; Metsä 1965; Pylkkänen 1965; Tawaststjerna 1965; Viikari 1965.

34. "Suurin osa uuteen sinfoniaani liittyviä seikkoja on vain minun ja teokseni välisiä eivätkä luonteensakaan puolesta voine kiinnostaa teosta kuuntelevaa yleisöä. […] Kaikki, mitä voin sinfoniasta pelkkien asiatietojen lisäksi sanoa, on se, että sen säveltäminen on ollut minulle taiteilijana juuri tällä hetkellä välttämätöntä."

to write a large-scale aleatoric piece for orchestra and choir (possibly adapting one of his earlier efforts in this genre; the orchestral version is at the Finnish National Library, Coll. 586.10) before settling on a through-composed a cappella piece. It was composed in the spring of 1965 (Ilta-Sanomat 1965). Neither of these pieces fared very well. *Syksy virran suussa* initially proved too difficult for Laulu-Miehet and they did not perform it until December 1971. As for *Lu'ut*, the *Kalevala* piece, the Radio Chamber Choir performed it but only once. After the performance Harald Andersén, the choir's conductor, told Rautavaara that he would not be programming it again because it would too hard on the singers' voices (Rautavaara 2014).[35]

Already in early 1963 Rautavaara had finished a new version of *Modificata*, this one for oboe and string trio. Therefore, the *Quartet for Oboe and Strings* did not require any effort in 1964 other than sitting through the premiere on 8 June at the Helsinki week. After this, not much emerged for several years. The one-movement String Quartet No. 3 (1965) is a reorchestration of the original *Canto II* and was written for the Camden Festival in London. It won the first prize in the festival's composition contest and was performed at the 1967 festival along with a wealth of other Finnish music, including works by Joonas Kokkonen, Erik Bergman, and Paavo Heininen. (Helsingin Sanomat 1966; Kauko 1967).

At this time, he was bestowed with an honor that probably came at a critically important moment for him as a composer. In the midst of his darkest writer's block, he was one of the three Finnish recipients of the Wihuri Fund's Sibelius Prize in the fall of 1965—and actually on his 37th birthday on 9 October 1965. As 1965 was the centenary of Jean Sibelius, the Wihuri Fund decided to grant two Sibelius Prizes; one of them was presented to Benjamin Britten and the other was divided between three Finnish composers, Einojuhani Rautavaara, Erik Bergman, and Usko Meriläinen (Helsingin Sanomat 1965).[36] Perhaps this recognition spurred him on.

Maybe Rautavaara's successes also rekindled the interest of musicians, as he slowly started getting commissions. Rautavaara's writer's block persisted, so he continued to recycle older pieces to fulfill the commissions. In 1967 Rautavaara wrote a piece for orchestra, entitled *In Memoriam J. K. Paasikivi*, to a commission from the Association of Finnish Orchestras. In this piece he used materials from his Symphony No. 1, by then long since withdrawn.

35. *Lu'ut* calls for a variety of different vocal techniques, from whispering to speaking to regular singing. Andersén's concern was surely with the beginning of the piece, where there is a huge, extended crescendo, ending in *forte fortissimo* in high falsetto voices, going as high as C6 in the sopranos—voices that the composer, moreover, orders to be sung with a "leaking" intonation.

36. The sum of the Sibelius Prize was 25 000 US dollars. Britten got his prize in full, while the other prize was evenly divided between the three Finnish composers.

Rautavaara had also withdrawn his second and fourth symphonies. In 1967 he turned to the latter with the intention of converting its first movement into an organ piece. This new version of the symphony's *Sonata* (music that had earlier existed as *Fantasia* and *Apotheosis*) he retitled as *Ta Tou Theou* and submitted this to the composition contest for the inauguration of the new organ at the Helsinki cathedral—and won (Helsingin Sanomat 1967a). A revised version of Symphony No. 4 was written as well; as Rautavaara had used the first movement of the original version in *Ta Tou Theou*, he wrote a completely new movement to replace the Sonata of the original version. Or to be more precise, he again recycled previously unpublished music to form the new symphony movement. The new movement was based on three songs that Rautavaara originally intended as a second cycle to his Lied cycle *Fünf Sonette an Orpheus* (1954–1955). These three songs were apparently written around the turn of the 1960s, to Rilke's poems *Nur wer die Leien schon hab*, *Wandelt sich*, and *Frühling ist wiedergekommen*.[37] Somewhere along the way, Rautavaara had transformed the three songs into a piano piece, entitled *Rilkeadi*, and it was this instrumental piano version that he now orchestrated to act as the first movement of the symphony. Rautavaara's sketches suggest that he thought of using this music for a cello concerto as well, before setting out to write the music that actually became his Cello Concerto No. 1 (1968).

In New York in 1956, Rautavaara had written *Preludes of T. S. Eliot*, a four-movement composition for mixed choir and percussion. In 1967, he revised it thoroughly for an upcoming American tour of the Ylioppilaskunnan Laulajat male choir. In the process, the choral parts were converted for male chorus and the percussion parts were erased completely—as were two of the movements. This new version Rautavaara retitled, appropriately, as *Two Preludes of T. S. Eliot*.

37. The title page of one manuscript of *Fünf Sonette an Orpheus* indicates that the original songs from 1954–1955 were at some later point designated as "Erster Zyklus," while *Nur wer die Leien schon hab* and *Frühling ist wiedergekommen* were to be included in the "Zweiter Zyklus." The place and date of composition are given as Sääksranta 1958; that is, Rautavaara's aunt's summer villa, at around the same time as he was composing *Kaivos*, most of which was composed in Sääksranta as well. No other songs are listed on this particular manuscript, suggesting that *Wandelt sich* was composed later than the other two. The manuscript is among the uncatalogued Rautavaara materials at the Finnish National Library, as is the manuscript of *Rilkeadi* and the various sketches of Rautavaara's attempts at Symphony No. 4.

6
Existence and Essence: The Emergence of a New Style (1967–1970)

Towards the end of the 1960s, Rautavaara gradually began to write music again. Initially, he produced music mainly by reworking earlier pieces for composition contests and commissions. The basic reason, as he himself admitted in 1967, was financial:

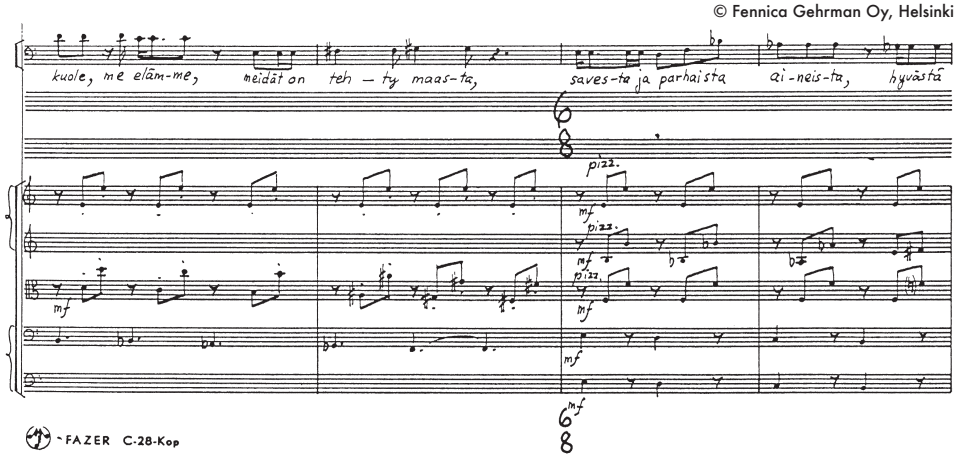
> Entering competitions always gives me a nice stimulus—it occurs to me to try this or that. Otherwise the reasons are, of course, mainly economic: the pressures of a certain living standard lie in the background. The downside of competitions is that they delimit one's artistic freedom, because one has to consider the tastes of the audience and possibly of the jury as well. (Rautavaara, quoted in Helsingin Sanomat 1967b.)[1]

Quite soon, however, the stimulus provided by composing to order—be it to competitions or commissions—seems to have awakened inspiration as well, because within a few years, his creativity began to flourish and he began the most productive phase of his career.

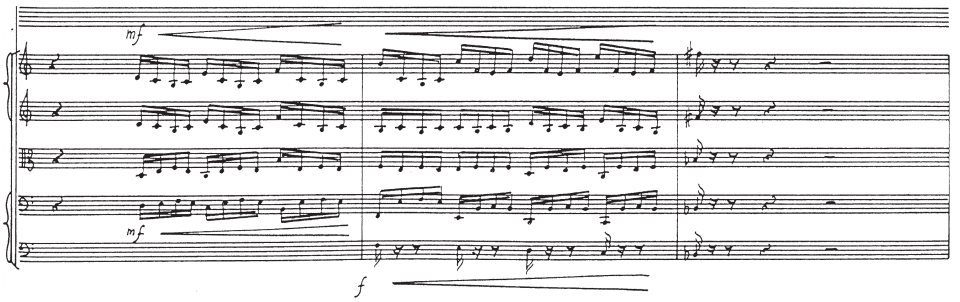
6.1 Independence Cantata, Two Psalms

In 1966, Rautavaara took part in a composition contest staged to commemorate the 50th anniversary of Finland's independence. This piece, *Independence Cantata 1967*, he based on *14 sånger till dikter av Bo Setterlind*, the Lied cycle that he had originally written in 1962. He used several sources for the text, including poems of Paavo Haavikko and V. A. Koskenniemi, as well as historic texts. He won the contest and the Cantata was premiered on 10 June 1967.

1. "Kilpailuihin osallistuminen antaa aina mukavan herätteen – tulee ajatelleeksi, että koetetaanpa nyt tuotakin. Muuten ovat syyt tietenkin suurelta osaltaan ekonomiset: elintason aiheuttama paine on taustalla. Kilpailuissa on tietenkin se haittapuoli, että ne jossain määrin rajoittavat taiteellista vapautta, koska huomioon on otettava sekä yleisön että mahdollisesti myös juryn mieltymykset."



Example 6.1a. Independence Cantata 1967, mm. 170–173 (strings and bass soloist only).



Example 6.1b. Independence Cantata 1967, mm. 330–332 (strings only).

The music of the Setterlind songs (written in 1962), and by consequence, of the *Independence Cantata* (written during the summer of 1966), are largely composed with synthetic modes and symmetrical structures.[2] See Example 6.1a for an example of synthetic modes. The music in the passage, from the sixth movement of the *Independence Cantata*, titled "Minä kerskaan" (I Boast), is written with Messiaen's sixth mode, whose interval structure is 22112211. In this passage, the current transposition of the mode contains the notes C-D-E-F-F♯-G♯-A♯-B. See Example 6.1b for an example of symmetrical formations in the *Independence Cantata*, where the strings play figures in contrary motion, forming symmetries around the note D. The passage is in the 12th movement of the *Independence Cantata*, titled "Taistelulaulu (Suomi laulaa III)" (Battle Hymn [Finland Sings III]).

In 1967, Rautavaara still felt that the *Independence Cantata* was a sidestep from his "true" style: "[It] has induced me to discard dodecaphony, which I consider my

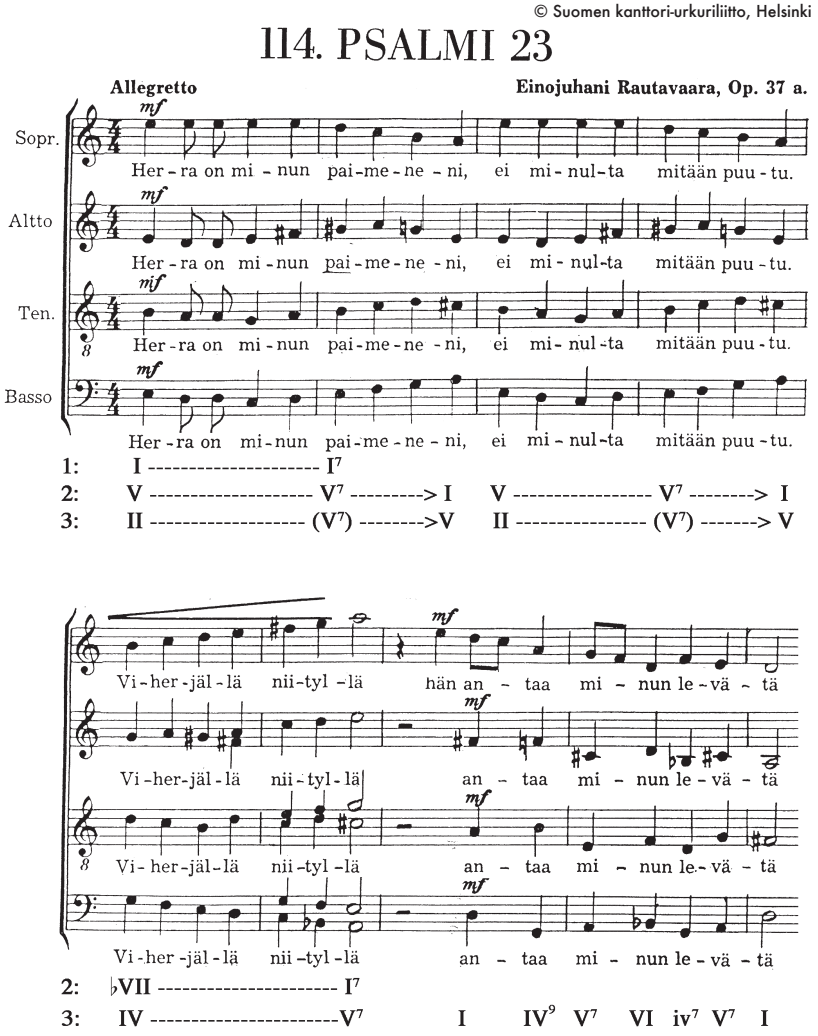
2. At times these categories overlap—a synthetic mode may be symmetrical (a case of pitch class symmetry) and an explicitly symmetrical passage may conform to a synthetic mode (a case of pitch symmetry).

most characteristic mode of expression, because I feel it is reasonable that the people, in honor of whose independence the cantata is composed, will be able to grasp its message." (Rautavaara, quoted in Helsingin Sanomat 1967b.)[3]

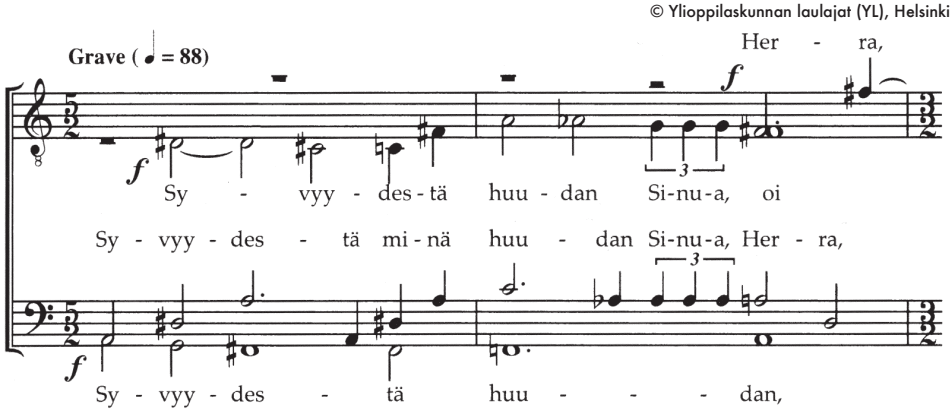
The *Independence Cantata* is not as romantic in style as most of Rautavaara's subsequent compositions. The music is still at times rather stark and severe, but the piece is nevertheless an important precursor to Rautavaara's music in the 1970s and 1980s. It heralds a clear widening of his expressive palette, with its diverse textural sources that are accompanied by various stylistic allusions. Rautavaara took the texts from the poetry of Paavo Haavikko and V. A. Koskenniemi, public speeches of two presidents of Finland (Risto Ryti and C. G. Mannerheim), from the trial records of the Armfelt conspiracy, from the correspondence of Czar Nikolai II of Russia and the Finnish Governor-General Nikolai Bobrikov, as well as various historic newspaper headlines. Outside purely operatic works, the *Independence Cantata* is the first of Rautavaara's compositions that are clearly narrative by nature. There would be several other compositions of this kind in the 1970s and 1980s, such as *True & False Unicorn*, *Kainuu*, and *Odotus*.

Musically, the *Independence Cantata* alludes to tonality, even though it is, strictly speaking, more modal than tonal. After the cantata, tonality began to interest Rautavaara more and more as he found himself able to compose once again. First, he made a complete U-turn from integral serialism and composed *Two Psalms* for mixed choir, incorporating clear allusions to tonal cadences in the music. Notwithstanding some folk music arrangements, the solo cello sonata (1969), and a few passages in the *All-Night Vigil* (1971–72), this is virtually the only composition where Rautavaara does this. In Rautavaara's two Psalm settings, tonal implications are clearer in *Psalm 23*, where he writes diatonic melodies and V–I cadences (Example 6.2a). However, even here Rautavaara clouds the tonality; he writes archaic parallel fifths in the tenors and basses and mixes the major and minor modes so that no clear-cut tonal interpretation can be given. The initial open fifth E-B is very likely interpreted as a tonic on first hearing (line 1 under the first system in Example 6.2a). However, as soon as the chord transforms into an E^7 chord on the downbeat of measure 2, it is reinterpreted as a dominant that resolves to an A chord on beat 4 of measure 2 (line 2 under the first system; the analysis shows also that the initial open fifth E-B is then retroactively reinterpreted as a dominant). After the initial phrase is repeated in measures 3–4, more reinterpretations are likely to occur. The stepwise motions of measures 5–6 can

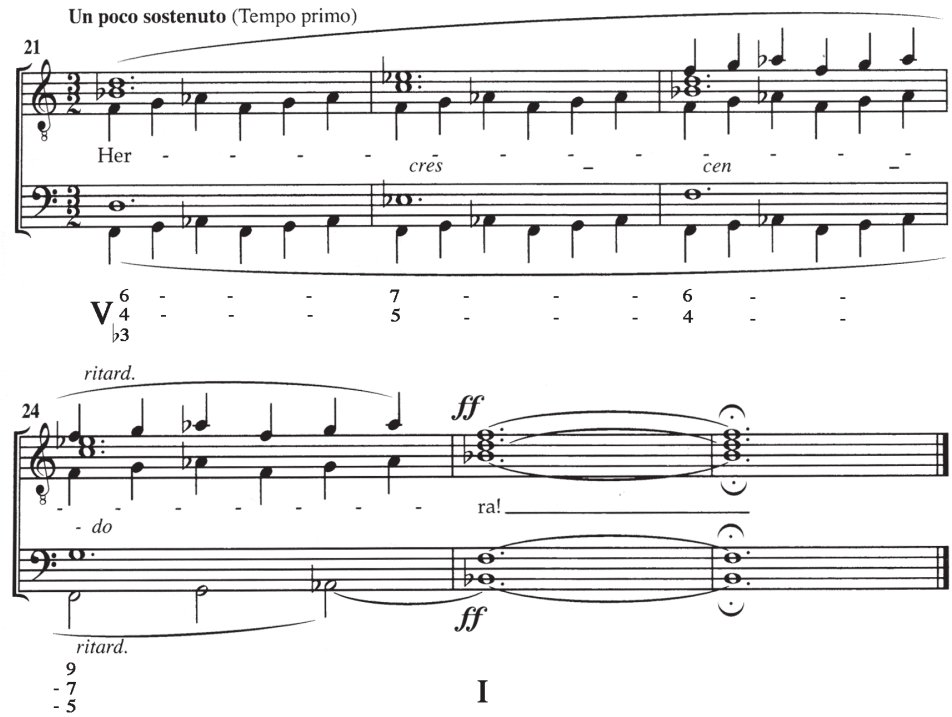
3. "[Se] on saanut minut luopumaan omimmaksi ilmaisukieleksi tuntemastani dodekafoniasta, koska on mielestäni kohtuullista, että kansa, jonka itsenäisyyden kunniaksi kantaatti sävelletään, myös kykenee tavoittamaan sen sanoman[.]"



Example 6.2a. Psalm 23, mm. 1–9. Mixed choir version (1968).



Example 6.2b. Psalm 130, mm. 1–2. Male choir version (1971).



Example 6.2c. Psalm 130, mm. 21–26. Male choir version (1971).

be heard as prolonging the initial G major chord of the phrase, first interpreted as ♭VII. But as A7 appears on beat 3 of measure 6 and gives the impression of a dominant seventh chord, the G major chord is reinterpreted as a subdominant. Measures 7–9 contain a cadence to D, although it is not apparent if the tonality is D major or D minor; Rautavaara mixes the modes so that both interpretations seem possible.[4] Rautavaara wrote the original version of *Two Psalms* for mixed choir in 1968 and arranged them for male choir in 1971; in making the male choir arrangement he also revised the songs slightly. The revisions included the removal of some of the most tonal-sounding harmonies, such as the dominant seventh chord on beat 4 of measure 8; in the original mixed choir version, the chord contains the notes A-G-C♯-E, whereas in the revised male choir version, the chord only contains the basic triad without the seventh (A-C♯-E).

4. For instance, the B♭ and Gm7 chords on beats 2 and 3 of measure 8 give the impression of a minor tonality, which is then altered on the downbeat of measure 9 with a major tonic chord, i.e., a Picardy third. On the other hand, the beginning of that phrase gives the impression of a major mode on beats 3 and 4 of measure 7 and on the downbeat of measure 8. Adding even further to the clouding of the interpretation is the G-based ninth chord on beat 4 of measure 7. It is tentatively analyzed here as a subdominant ninth chord, although in tonal music ninth chords generally have a dominant function. But as the chord is here clearly the product of linear voice leading in the upper voices and I–IV–V motion in the bass, the bass line is viewed as more pronounced.

Tonal characteristics are present in *Psalm 130* as well, but a more striking feature is Rautavaara's copious use of tritone relations in illustrating the anguished quality of the "De profundis" psalm (Example 6.2b). Tritones are the most prevalent in the beginning of the song; as the piece proceeds, the tritone motifs give way to more consonant, triadic harmonies. This reflects the content of the text. The beginning of the Psalm deals with anguished emotions, which are gradually countered by thoughts of salvation as the text proceeds. At the very end, the text praises God, and Rautavaara illustrates this with a drawn-out cadence (Example 6.2c).

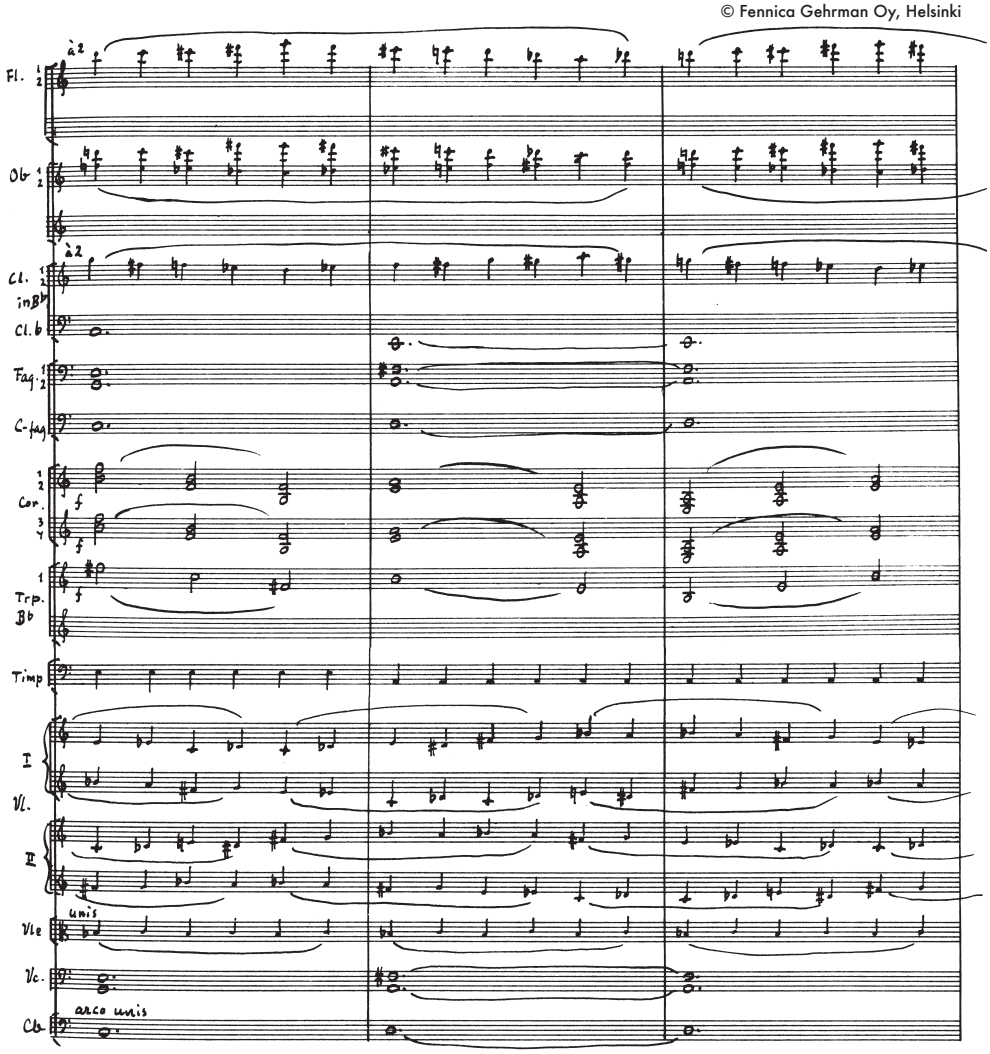
6.2 On a Stylistic Ledge: Anadyomene

It seems that these two compositions, *Independence Cantata* and *Two Psalms*, drove a wedge into Rautavaara's writer's block. In his next compositions, that wedge projected itself forward before finally breaking the block in a grand sweep. Rautavaara now set out to explore the implications suggested by those two pieces—the triadic psalms and the orchestral cantata that employed synthetic scales. But he was still balancing on a stylistic ledge.

Maybe, as he looked back to his previous catalogue and looked for uncontestably successful pieces, he happened on his Symphony No. 3 with its echoes of Anton Bruckner. And maybe, as he looked back on those pieces that had failed, he recalled the unfinished, multi-serial Debussy project from 1964. He now decided to visit the Debussy's world again, but this time, from a different perspective. In the spring of 1967, the Helsinki Festival had commissioned an orchestral composition from him. During the summer in Tyrskyniemi (Määttänen 1968) he started to work on *Anadyomene*, a piece that is an adoption of the sonic world of Claude Debussy as much as Symphony No. 3 is an adoption of the sonic world of Bruckner.

Although his earlier plan to program his piece on Debussy's *Nuages* had failed, he was still not ready to completely abandon the idea of predetermination of structure. But instead of using the music of *Nuages* as the generator of structure, he took a literary source—James Joyce's novel *Finnegans Wake*. He planned to call this composition "riverrun," taking the name from the first word of the novel. (Rautavaara 1989, 221–222.)

He started to write a musical image of the content of the first few paragraphs of *Finnegans Wake*. The very word "riverrun" was translated into a symmetrical undulation of notes, depicting the flow of a river. Initially there are two pairs of notes in the first violins, then also other pairs in other instruments, so that soon there are several layers of swelling figures. These notes create a gently moving, octatonic mass



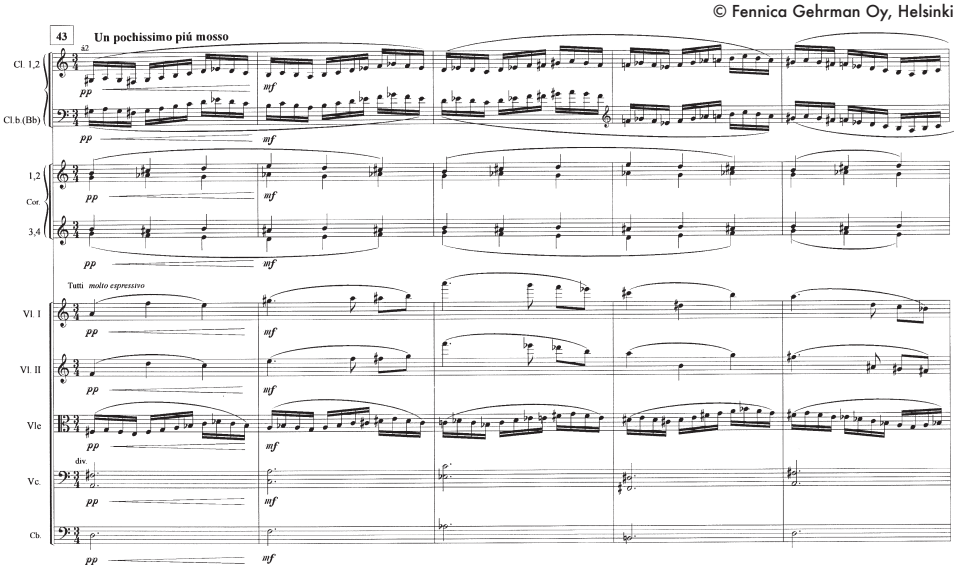
Example 6.3. Anadyomene, mm. 11–13. Original version (1968).

of sound. This symmetrically oscillating motif is the basis of much of the music that follows. Likewise, Joyce's text continues to inspire specific musical events.

"riverrun, past Eve and Adam's, from swerve of shore to bend of bay, brings us by a commodius vicus of recirculation back to Howth Castle and Environs." The "swerve of shore," "bend of bay," and "commodius vicus of recirculation" all find their expression in the symmetrical weaving of the water motif. "Eve and Adam's" transforms in the music a few pages later, to a motif on notes E-B♭-E, A-D, A-D-A-E♭.[5] In Example 6.3, the motif can be seen in the second and fourth horns and trumpet.[6] The capital letters of "Howth Castle and Environs" refer also to the protagonist of the novel,

5. E♭ stands for the letter s, as the note is referred to as "es" in Finnish and German.

6. All are transposing instruments, so the notes for horns in F should be transposed down by a fifth, and those for a B♭ trumpet down by a major second to obtain the sounding result.



Example 6.4. Anadyomene, mm. 43–47. Revised version (1998).

Humphrey Chimpden Earwicker, and in Rautavaara's music they transform into a fanfare motif on the trumpets and trombones (Rautavaara 1989, 223).[7]

As the text reaches the second paragraph, beginning with "Sir Tristram, violer d'amores, fr'over the short sea," the first violins quote the melody from the beginning of Richard Wagner's opera *Tristan and Isolde* (Example 6.4). However, since the melody is now rhythmically transformed and is not accompanied by the famously ambivalent harmonies of Wagner's opera, the quotation usually goes unnoticed (ibid., 224–225).

Having got this far, Rautavaara realized that it would no longer make sense to follow Joyce's text literally.

> I had approximately 50 measures of music, it contained motives, themes, organized tone material—all of which, by their very nature, contained musical energy and musical associations in addition to the literal ones. By this stage, they were overpowering, they called for certain musically relevant consequences, they had their own causality; a causality that was certainly not literal and would not conform or succumb as poetic symbols—the music was emancipated! It would not obey me. It did not care for Joyce's text or my plans. It knew better, it became *Anadyomene*, not 'riverrun'. I do not recall why just that name of Venus Rising from the Sea, maybe because at that time I became enthusiastic about ancient Greek. I wanted to read the *Odyssey* in the original language. (Rautavaara 1989, 225.)[8]

7. Again, with Finnish and German spelling, where the note referred to as B in English is spelled in this case as H. Therefore, the initials H. C. and E. yield the motif B-C-E.

8. "Musiikkia oli jo koossa viitisenkymmentä tahtia, se sisälsi motiiveja, aiheita, organi-

The name was also a reference to the grand ocean view that he saw in Tyrskyniemi, the family's summer villa in southwestern Finland, when he was sketching the piece there. (Määttänen 1968.)

The connection of Rautavaara's *Anadyomene* to Debussy is chiefly textural. The orchestration is brilliantly sumptuous, full of impressionistic evocation, reminiscent of Debussy's rich orchestration in such pieces as *La mer* or *Nocturnes*. In a sketch sheet for *Anadyomene*, Rautavaara wrote such epithets as "Debussy, the revolutionary," "Debussy, the master," "the siren of revolution," "a modern classic," and "impressionist or surrealist."[9] The depiction of the movement of water, of course, links *Anadyomene* closely to *La mer. Nuages*, the first movement of *Nocturnes*, is clearly alluded to in the very beginning of *Anadyomene*, with the contrary motion of the first violins; in *Nuages*, the woodwinds begin the piece with similar gestures.

Rautavaara was no doubt well aware of current events in contemporary music, with several techniques and ideologies abounding, such as performance art (à la John Cage), clusters (Penderecki), sound masses (Ligeti), quotation and postmodernism (Berio). Rautavaara's own background was modernist, and his new composition began from something of a modernist stance, with the composer determined to maintain minute control over the details of the music. The music turned out to be something different from his initial plans, and so before the premiere, he described the music as "chorale-like, fanfare-like, rhetorical." (Määttänen 1968.)

In many ways, *Anadyomene* seems to be a direct continuation of both the *Independence Cantata* and *Two Psalms*, although the three compositions, close as they are temporally, hardly sound anything alike. But as in the *Independence Cantata*, Rautavaara continued to employ synthetic scales and symmetrical structures in *Anadyomene*, and as in *Two Psalms*, he wrote predominantly triadic harmonies, although in *Anadyomene* there are no particular references to functional tonal harmony.

Instead, Rautavaara's harmonic thought was now occupied with harmonies that arose from synthetic scales and symmetries. If we look back at Example 6.3, we see that the violin textures are divided into pairs of voices that move in symmetrical contrary motion. On the first four beats of measure 11, the upper division of violin I

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soitua sävelmateriaalia – joihin kaikkiin luonnostaan sisältyi musiikillista energiaa ja musikaalisia assosiaatioita, kirjallisten lisäksi. Ne olivat jo tässä sävellyksen vaiheessa ylivoimaisia, ne vaativat tiettyjä musiikillisesti relevantteja seurauksia, niillä oli oma kausaalisuutensa, joka ei ollenkaan ollut kirjallinen eikä suostunut mukautumaan, alistumaan runollisiksi symboleiksi – musiikki emansipoitui! Se ei totellut minua. Se ei piitannut Joycen tekstistä eikä minun suunnitelmistani. Se tiesi itse paremmin, siitä tuli *Anadyomene*, ei "riverrun". En muista miksi juuri tuo "Vaahtosynty Afroditen" kutsumanimi, ehkä siksi että tuohon aikaan innostuin opiskelemaan muinaiskreikkaa. Halusin lukea *Odysseiaa* alkukielellä."

9. These sketches are among the currently uncatalogued Rautavaara manuscripts at the Finnish National Library, so a signum cannot yet be given.

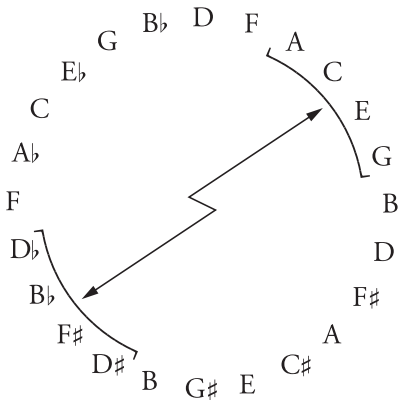
and the lower division of violin II form a pair, as do the lower division of violin I and the upper division of violin II. Subsequently, for the next 6 beats (until beat 5 of the following measure), the pairs are changed so that the divisions of violin I and II, respectively, form symmetrical pairs. The pairings then revert to the previous situation on the fifth beat of measure 12.

These ever-shifting sound webs begin the whole composition, and form the octatonic scale, or Messiaen's second mode of limited transposition. On the Harmonic Circle the notes of the scale are found on diametrically opposite sides, so that one of its most salient features, the tritone relations that the notes of the scale form when paired into four pairs (C-F♯, C♯-G, D♯-A, and E-B♭), are clearly visible (Example 6.5a). Initially, this octatonic sound web is heard alone, but subsequently Rautavaara layers other events on top of it. These events are often symmetrical and ornamental (as are the woodwind motifs in Example 6.3) or clearly thematic, derived from the initial program of the composition (as are the brass themes in Example 6.3, derived, as we have seen, from Joyce's text in *Finnegans Wake*).

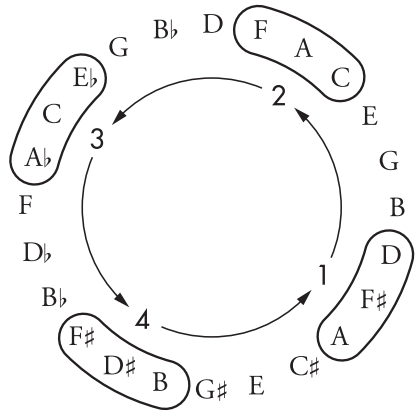
The situation continues in a similar fashion in the "Tristan" passage quoted in Example 6.4. In this passage, the roles of the instrument sections of the orchestra are slightly altered. Now, the violas and clarinets play octatonic arabesques in the background while the violins play the Tristan theme. The horns are relegated to an accompanying role behind the violin theme and play symmetrical figures. The harmonic background is particularly interesting, as it shows how Rautavaara began to apply symmetrical and synthetic principles to his triadic writing at this time. In measures 43–47 (Example 6.4), the double basses and cellos play an ascending line of triads: D major – F major – A♭ major – B major – D major. In measures 48–52, this chain is transposed up a perfect fourth: G major – B♭ major – D♭ major – E major – G major, and in measures 53–57, again up a perfect fourth: C major – E♭ major – F♯ major – A major – C major. These kinds of "mediant-related chains of major triads" (cf. Heiniö 1988, 60) became central to Rautavaara's music in his neoromantic style period; *Anadyomene* is the first full-fledged specimen of that style.

The chords in these mediant chains ascend by minor thirds. The chords divide the Harmonic Circle evenly into four segments and in effect create a Lendvaian tritone axis. Example 6.5b illustrates the chord progression of measures 43–47 (cf. also, Example 6.4 above). Note that the pitch classes contained by these four chords form the octatonic scale. The tritone relations between the four chords lend the music a sense of tension that takes the place of the dynamism of functional tonality.

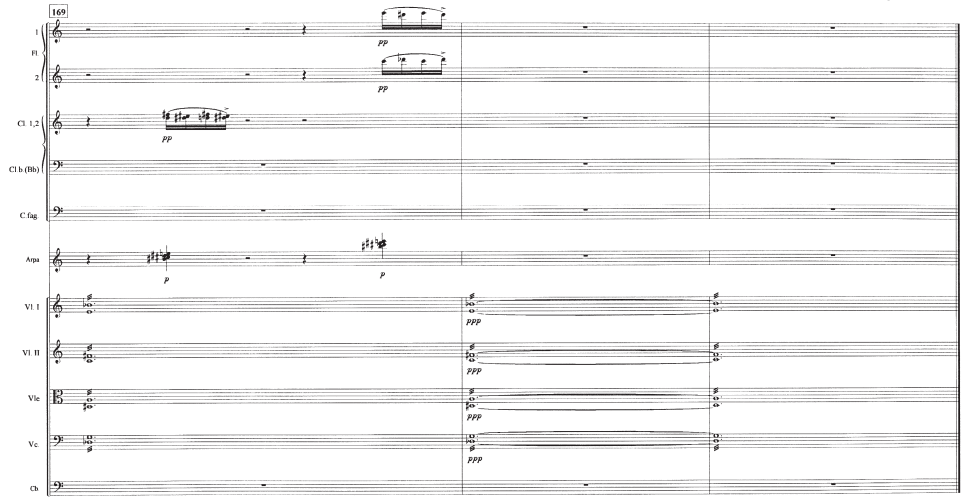
The uniform tertian motion of the mediant chains, as in Example 6.4, contrasts with the stepwise harmonic motion of the "Eve and Adam's" theme (Example 6.3).



Example 6.5a. The notes on the violins in Example 6.3 on the Harmonic Circle (Octatonic scale).



Example 6.5b. The harmonies of Example 6.4 (mm. 43–47) on the Harmonic Circle.



Example 6.6. Anadyomene, mm. 169–171. Revised version (1998).

These two contrasting materials form the main harmonic materials of *Anadyomene* and both reappear in the music several times. The composition ends with a reference to its beginning—it began with a subdued octatonic undulation of strings, and it ends quite similarly, but without the kinetic energy of the undulating sound webs. Instead, the strings play an octatonic field in a *piano pianissimo* tremolo (Example 6.6). As a nod to the all-pervasive tritone relations in the whole piece, Rautavaara spaces the final chord so that the divisions between the instrument groups outline tritones.

Rautavaara's experience with the birth process of *Anadyomene* was the final impetus for his new style. Although later he was not completely satisfied with *Anadyomene's*

rhythmic structures (Rautavaara 1989, 225),[10] writing the piece in general proved to be a hugely liberating experience. He learned to move from the extreme control of the integral serialist method to a more intuitive mode of writing; the earlier Debussy project had collapsed with the impossibility of attaining any sort of distinctive musical identities within the thoroughly-controlled system.

The revolution in Rautavaara's music thus embraced many levels. On the surface, the change was immediately audible, when one compared, say, *Anadyomene* with *Arabescata*. On a deeper level, there was a revolution in the approach that he took to the very act of composing. The shift echoes the philosophy of Existentialism, with which Rautavaara was well acquainted, as can be clearly seen in the libretto of *Kaivos*.

Rautavaara initially attempted to "program" the music of *Anadyomene*, using the text of *Finnegans Wake* as a basis for the music. If he had succeeded in following the plan through for the whole duration of the composition, the result would no doubt have been a prime example of program music; a composition that illustrates a preconceived story, as opposed to absolute music, a work whose narrative is primarily musical.

In a radio presentation that Rautavaara recorded for the Finnish Broadcasting Corporation in May 1969, he discussed the nature of Debussy's program music, specifically *Prélude à l'après-midi d'un faune*. Rautavaara maintains that Debussy's piece, although it has a programmatic title, is not really program music, because it would work as a piece of music no matter what its name. He draws a parallel with the Existentialist concepts of existence and essence: in an artifact, the essence precedes the existence; that is, the maker of the artifact has a preconceived notion of what the finished product will be, even before the artifact exists. By contrast, in man, the existence precedes the essence; man exists first and molds his being afterwards, through his thoughts and actions. "Of these two, the former, the artifact, might be compared to a piece of program music. And the latter, man, to an organic musical composition, by the name of, say, *L'après-midi d'un faune*" (Rautavaara 1969b).[11]

In abandoning the explicit program of *Anadyomene*, Rautavaara, in fact, asserted that the composition was organic; it had a will of its own, it "emancipated itself," as Rautavaara later noted (Rautavaara 1989, 225). That is, the music itself seemed to shape its essence. But it did so only after the process had been started by the composer. Later Rautavaara has likened the work of a composer to that of a gardener

10. For instance, when revising the piece in the 1990s, he changed the periodic quarter-note thumping of the timpani in Example 6.3 to continuous tremolos.

11. "Näistä kahdesta edellinen, se esine, olisi ehkä verrattavissa ohjelmalliseen sävellykseen. Ja jälkimmäinen, ihminen, orgaaniseen musiikkiteokseen, vaikkapa nimellä *L'après-midi d'un faune*."

(Rautavaara 1998b, 38–39) or a midwife (Heiskanen 1974); significantly, both occupations deal with helping organic beings come to life.

The organic turn that *Anadyomene* took was at the same time a rejection of rationality, an act of rebellion and emancipation from the exaggeratedly intellectual composition method of pieces such as *Arabescata*. Rationality, as seen by Sartre, is an embodiment of "mauvais foi," or Bad Faith, that man falsely imposes on the world in order to reduce his anxiety—and this anxiety is brought on by the extreme freedom that man faces in having to shape his essence (Sartre 1966 [1956], 83). As an example, Sartre mentions a waiter in a café. The waiter seeks to perform the role of a waiter so that the clientele will be more at ease: "His movement is quick and forward, a little too precise, a little too rapid. […] All his behavior seems to be a game. […] But what is he playing? We need not watch long before we can explain it: he is playing at *being* a waiter in a café. (Ibid., 101–102; emphasis his.)

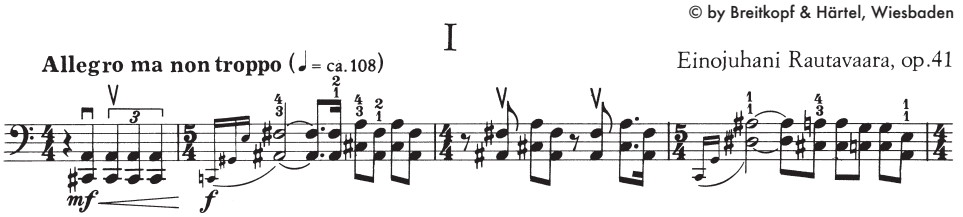
In these terms, to Rautavaara the world of *Arabescata* represented Bad Faith, a sphere of extreme rationality that Rautavaara had adopted in his music, at the same time as he lost his freedom in his private life. He played at *being* a contemporary composer; in order to succeed at that, he needed to be as modern as possible. Before *Arabescata*, in compositions such as String Quartet No. 2, *Die Liebenden*, and Symphony No. 3, he had attached far less importance to the orthodox unfolding of the twelve-tone rows and allowed the music to evolve according to what he liked to hear. And now, as he was again asserting his freedom after years of submission, he no longer felt the need to exert as much rational control over his music as before.

6.3 Consolidation of a New Style: Concertos and Sonatas

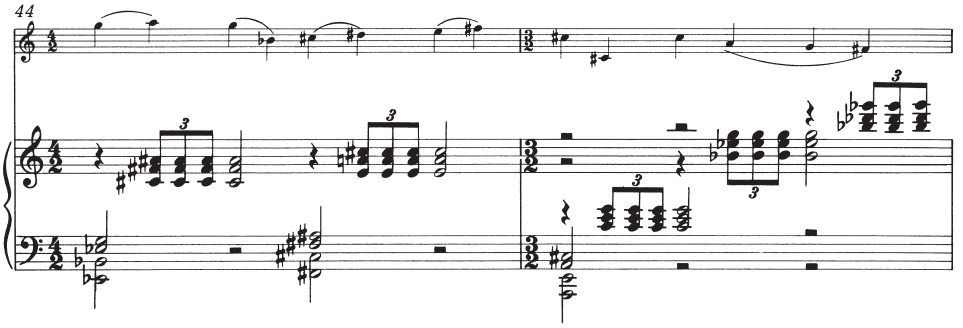
Among the first of Rautavaara's works in his neoromantic period are his Cello Concerto No. 1 and Piano Concerto No. 1. These works show Rautavaara continuing to explore ways of organizing harmonies that are fundamentally triad-based, but without resorting to functional tonality. The mediant chains that he had previously employed in *Anadyomene* also proved useful in the Concertos, but here Rautavaara employed them in a different manner.

6.3.1 Cello Concerto No. 1

In terms of harmony, the overall form of the three-movement Cello Concerto No. 1 can be analyzed as a progression from a tense, somewhat ambiguous opening situation to a more straightforward and reposeful ending. The progression of harmo-



Example 6.7. Cello Concerto No. 1, 1st movement, mm. 1–4.



Example 6.8. Cello Concerto No. 1, 1st movement, mm. 44–45.

ny is reflected in melodies as well, as the main motif of the concerto is encountered in different harmonic environments along the way.

The main motif is first encountered at the very beginning, in measures 2–3. The concerto begins with a cadenza for the soloist,[12] and the main motif is formed by the back-and-forth thirds motion on the last two beats of measure 2 and the whole of measure 3 (see Example 6.7). The upper minor third between A and F♯ becomes the most important melodic motif of the whole concerto.

The opening cadenza also outlines the harmonic starting point of the whole concerto, as the cellist's double stops all refer to four distinct triads: A major, C major, E♭ major, and F♯ major. These triads are fully heard when the orchestra enters. Starting from measure 27, the orchestra starts to layer these chords on top of each other and thus creates polychords. Example 6.8 shows a later instance (mm. 44–45), where the layering of chords is somewhat intensified from the initial situation.

The four triads (A major, C major, E♭ major, and F♯ major) divide the octave symmetrically into four segments. These four chords form the harmonic and motivic starting point for the whole piece; I will call them the *four structural triads* of the con-

12. On the rather haphazard genesis of this opening cadenza, see Rautavaara 1989, 250–251. Originally, the opening of the concerto was not a cadenza, but Rautavaara wrote it for the soloist with a colorful orchestra accompaniment. In the first rehearsal it was discovered that the orchestra drowned the sound of the solo cellist. At the suggestion of the cello soloist Erkki Rautio, Rautavaara chose to omit the orchestral parts completely from the first 20 measures, leaving the soloist to begin the concerto with a cadenza.

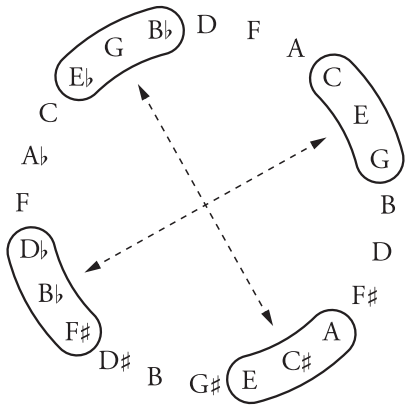
certo. The triads lie at the distance of a minor third from each other, and especially in the first half of the piece, the music often cycles through these triad chains. In the first movement, the triad cycles generally ascend, thus giving the music a dynamic, outward-reaching character (cf. Example 6.8). The concerto begins with an introduction, or a cadenza, for solo cello; the double stops in the cadenza all refer to the four triads (Example 6.7).

The four structural triads generate a specific tonal space; taken together, they contain eight distinct notes which form the octatonic collection. As it is constructed of an even alternation of semitones and whole tones, it creates a tonality that has a distinctive atmosphere—one that is clearly related to the traditional major-minor tonality but is not identical to it.

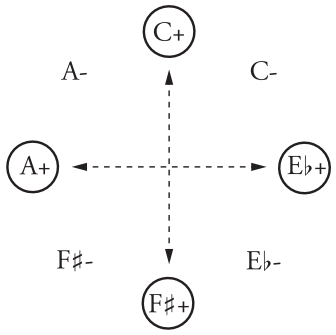
For example, it is possible to construct triads from the octatonic scale but impossible to write tonal cadences. This is because subdominant and dominant triads simply do not exist in the collection—while a particular transposition of the scale might contain the notes for a C major triad, it does not contain the notes of a subdominant D minor or F major or the notes of a dominant G major seventh. Instead, there are plenty of tritone-relations, and it is these that Rautavaara employs in his cello concerto and other compositions. In the Cello Concerto No. 1, the four main triads are often superimposed, as in Example 6.8, so that bichordal impressions arise.

It can be argued that this very feature of the octatonic scale is what drew Rautavaara to it. The tonally inflected cadences in the *Two Psalms* remained an exception in his output, maybe because they sounded *too* tonal for Rautavaara's taste. We must bear in mind that at this time Rautavaara considered serialism (with Schoenberg's admonitions of tonal references still as a subtext) to constitute his true voice as a composer; Rautavaara still regarded the neotonal compositions, such as *Anadyomene* and *Independence Cantata*, as "rhetorical" (Määttänen 1968). Therefore, while he was still in his modernist phase, he considered serial composing to be his true and honest style; but when he wrote with triads and Romantic melodies, he was playing a role.

The built-in impossibility of writing V–I cadences within an (untransposed) octatonic scale, on the other hand, guaranteed that such tonal references would not arise. At the same time, triadic harmonies were readily available, and as the first movement of Cello Concerto No. 1 shows, it was possible to partition these triads symmetrically on tritonal axes. When these triads are tracked on the Harmonic Circle, they can be seen to divide it symmetrically into four segments, with the triads forming two pairs of tritone axes (Example 6.9a). The triads can also be visualized on an alternative space of octatonic triads, arranged as an RP chain (Example 6.9b); unlike the Harmonic Circle, the space also considers parallel minors of the major chords used in this



Example 6.9a. The triads of Example 6.8 on the Harmonic Circle.



Example 6.9b. The triads of Example 6.8 on an RP chain.

passage. These kinds of RP chains are called OctaCycles by Douthett and Steinbach (1998, 246–247); there are three in total, one for each distinct transposition of the octatonic collection. Both spaces in Example 6.9 indicate the tritone poles inherent in the four structural triads.

The coexistence of these particular triads is the main source of harmonic propulsion in Rautavaara's Cello Concerto No. 1. They replace the dynamic tension that exists in a system that encompasses tonics, dominants, and other traditional functions of harmony, while retaining the triad as the basic unit of harmony. The melodies of the concerto are predominantly written with the octatonic scale, corresponding to the harmonic basis; see, for example, the octatonic cello melodies in Example 6.8 above. When melodies are octatonic in this piece, they refer, by association, to the four structural triads; and when they depart from the octatonic mode, especially in the latter half of the concerto, they can be interpreted as aiming for the concluding harmonies.

The four structural triads also form the harmonic starting point of the second movement of the concerto. In the beginning of the movement, the chords (transposed now to F, A♭, D, and B major) interlace much as they do in the first movement. There are some modal inflections almost from the beginning, as some of the major chords are turned into minor, and some of the triads are expanded by additional tones into tetrachords (for example, in measure 9, a D major chord is turned into a major seventh chord by the addition of C♯. This chord sounds simultaneously with an arpeggiated F major chord, so that the resulting sonority contains two minor seconds (C-C♯ and F-F♯) as well as several whole tones. Such clashes amplify the polytonal feel of the music, and in terms of the Harmonic Circle, they represent a

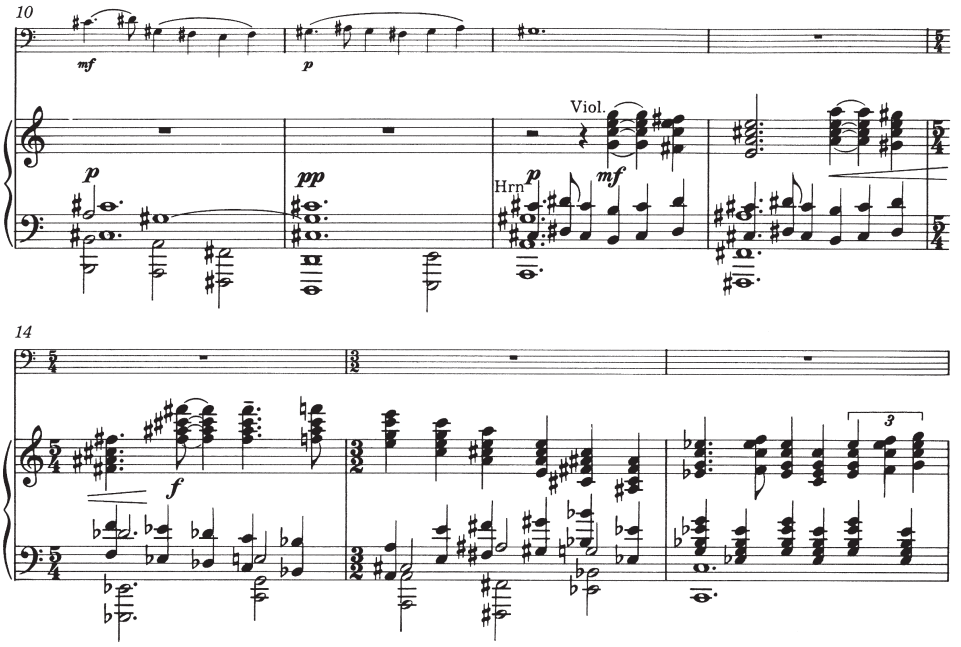
slight departure from the tightly regulated tritonal axes of the four structural chords. In most cases, the four structural chords form the basis of polytonality, whereas other chords arise from parallel melodic and harmonic motions. For instance, in an orchestral interlude in measures 12–19, the chordal background is supplied by overlapping structural chords where two of the structural chords frequently sound together, such as A major and C major in m. 12, F♯ major and A major in m. 13, etc. (Example 6.10). Harmonies that do not belong to those structural chords are perceived as passing motions, such as the F♯-C♯-E-F♯ chord on the last beat of measure 12, or the C♯ minor chord on the last beat of measure 13.

As the second movement is a slow movement, it functions as a calm haven between the more energetic outer movements.[13] The relative repose of the music is illustrated by the reappearance of the main motif of the first movement, now in a less dramatic harmonic guise. Whereas in the first movement, the motif, consisting of repetitive double stops in parallel minor thirds, moved back and forth between implied triad segments of the four structural chords, here in the second movement, the lower minor third is transformed into a major third (see Example 6.11). Therefore, it sounds more consonant as the two dyads imply a motion around a D-based sonority—which is strongly supported by the D bass tone.

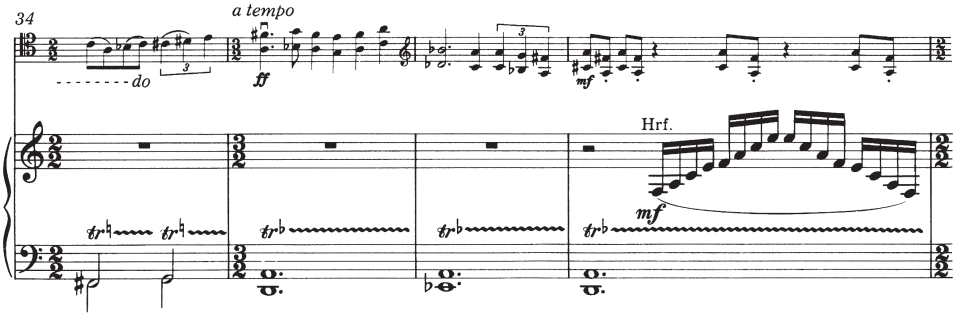
Throughout the second movement, the C♯-A – A-F♯ dyad motif is always supported by the open fifth D-A in the bass (as it is in measure 37 in Example 6.11). This suggests a D major harmony. However, at the end of the second movement, the simple D major harmony expands into a tremolo field that includes the notes C-D-E-F♯-G-A-B♭ over a constant D bass note. This harmony is symmetrical around D. The same harmony also appears at the end of the third movement and is discussed in more detail below.

Let us see how the different guises of the main motif relate to the harmonic progression in the first two movements. The first appearance of the motif is at the very beginning of the concerto, in the alternation of A♯-F♯ – C♯-A dyads (cf. Example 6.7). The motif is next encountered in a central section of the first movement (mm. 52–69), on slightly altered tones. Now, both upper and lower strains of the melody

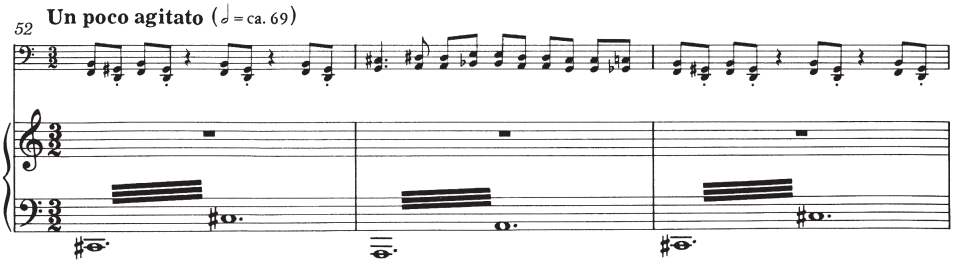
13. In a radio interview in 1974, Rautavaara discussed the genesis of the concerto in general and its second movement in particular. Regarding its character, Rautavaara commented: "...not so much a quiet, but a slow movement. And this is indeed a largo, but I did not want to make it a quiet, pensive or lyrical, atmospheric movement. By contrast, I wanted to retain—and this was my first idea for the movement—I wanted to retain a masculine, manly character, a cello-like character." (Similä 1974; "...ei niinkään hiljainen, vaan hidas osa. Ja nimenomaan tämä on largo, mutta en halunnut tehdä siitä sellaista hiljaista, mietiskelevää tai lyyrillistä, tunnelmoivaa osaa, vaan halusin säilyttää – se oli minun ensimmäinen ajatukseni tästä – halusin säilyttää sellaisen maskuliinisen, sellaisen miehekkään niin kuin otteen, sellomaisen otteen.")



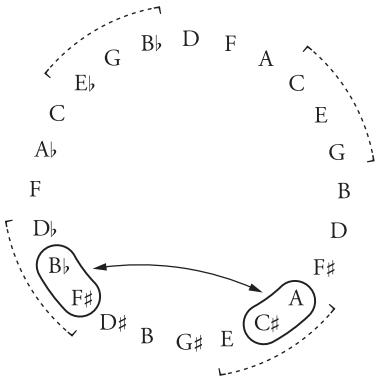
Example 6.10. Cello Concerto No. 1, second movement, mm. 10–16.



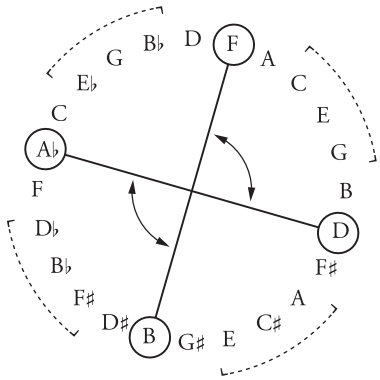
Example 6.11. Cello Concerto No. 1, second movement, mm. 34–37.



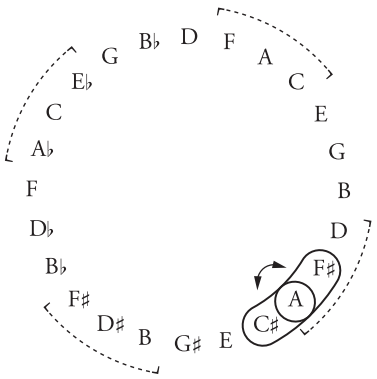
Example 6.12. Cello Concerto No. 1, first movement, mm. 52–54.



Example 6.13a. The alternating dyads of the main motif in movement 1, mm. 2–3.



Example 6.13b. The alternating dyads of the main motif in movement 1, m. 52.



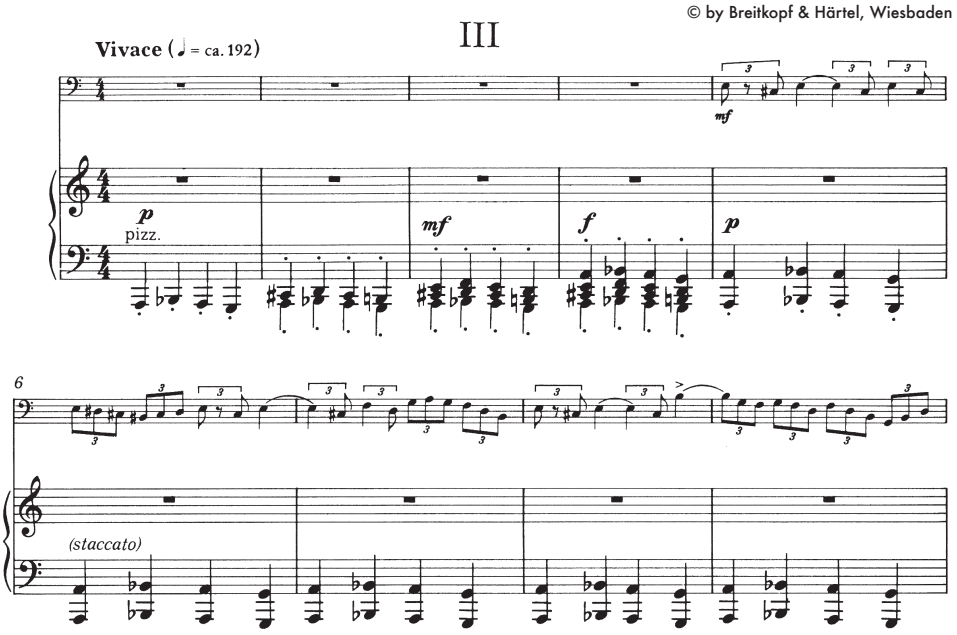
Example 6.13c. The alternating dyads of the main motif in movement 2, m. 37.

move in parallel minor thirds, at the distance of a tritone (Example 6.12). Towards the end of the first movement, the original guise of the motif reappears in a recapitulatory section, and in the final moments the motif is played in orchestral clusters, however always retaining its upper outline of a minor third between A and F♯.

On the Harmonic Circle, the first appearance of the motif (mm. 2–3, first movement) moves back and forth between two structural chords (Example 6.13a; cf. Example 6.7).[14] The harmonic guise of the main motif therefore corresponds with the four structural chords at the beginning of the concerto.

In the section at the midpoint of the first movement, the tritonal axes come to pervade even the main motif, whereas previously tritone relations had existed *between* consecutive dyads; now, the tritonal tension is embedded *within* each dyad. This is the dramatic high point of the movement with its extreme harmonic tension—the main motif of the cello (e.g., in m. 52) is now imbued with the tritone (Example 6.13b).

14. The dotted brackets in Example 6.13 indicate the four structural triads.

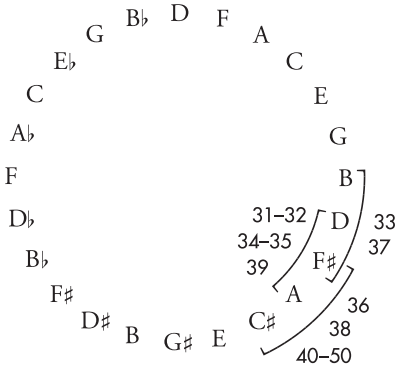


Example 6.14. Cello Concerto No. 1, third movement, mm. 1–9.

In the second movement, however, the main motif is heard in rather consonant surroundings (see Example 6.11). The two dyads—C♯-A and A-F♯—can be seen on consecutive sections of the Harmonic Circle, sharing a common A (albeit in different octaves) such that harmonic motion between the two dyads requires minimal energy (Example 6.13c).

The main motif appears in a yet different guise at the end of the concluding third movement of the concerto. The fast-paced finale begins with a bass ostinato circling the note A, and the octatonic cello melody dances around the 4/4 bass ostinato with a theme that implies a 6/4 time (Example 6.14). The octatonic scale employed by the cello melody ties it to the four structural triads. The steady A-B♭-A-G pulsation of the bass ostinato, too, is included in the octatonic collection. However, the melody gradually seems to be freeing itself from the octatonic mode, as Example 6.14 indicates. The first phrase (m. 5 and the first half of m. 6) is completely octatonic, but in the second phrase (the second half of m. 6 and the whole of m. 7) the last triplet seems to break loose. Finally, in the third phrase (mm. 8–9), the second half (m. 9) breaks out almost completely (only the note G belongs the octatonic collection of preceding measures).

The prevalent minor thirds in the cello melody refer, of course, to the main motif of the concerto, which has previously been encountered mostly in double stops played by the soloist. Now it appears as a part of a fast-paced melodic line, without double stops.



Example 6.15. The main harmonies of mm. 31–50 on the Harmonic Circle.

In terms of overall harmonic development, the music of the finale stays centered on the bass note A until measure 31,[15] after which a chorale-like section interrupts the flow of the main melody. Whereas the harmonies of the opening section (mm. 1–30) refer to the tritonal poles created by the four structural triads,[16] the following section (mm. 31–50) moves away from them. In this new section, the tonality is more focused and not as polytonally ambiguous as the four structural triads imply; the harmonies in this section lie quite close to each other on the Harmonic Circle and therefore motion between them is relatively parsimonious—as opposed to the tritone axes implied by the structural triads. See Example 6.15.[17]

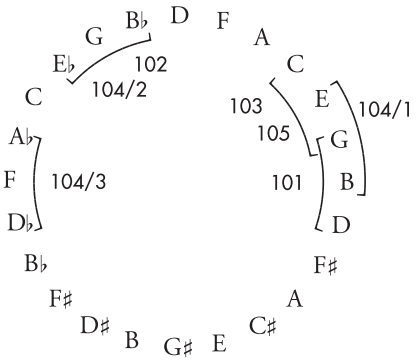
This section (mm. 31–50) leads to a cadenza played by the soloist. After this cadenza the opening section is repeated, but now with a slightly altered accompaniment. Instead of the A-B♭-A-G ostinato of the opening section, the accompaniment now adopts the minor thirds motif which is so prevalent in the entire concerto. Again, the section leads to a chorale-like culmination—a reminiscence of the second movement—in measures 102–105. Harmonic motion is again quite parsimonious (Example 6.16a), with the exception of the stepwise motion from E minor via E♭ major and D♭ major to C, which moves around the Harmonic Circle when tracked on it (Example 6.16b).

In the Coda (mm. 106–111), the main motif finally reappears in full (after a pass-

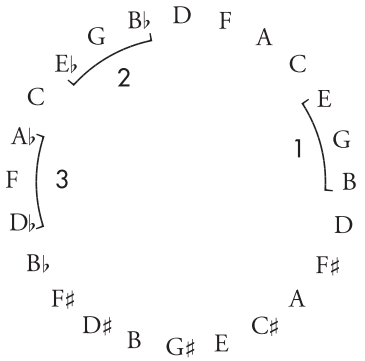
15. Measure numbers here refer to the original printed piano score of the concerto, from which my note examples are taken; Rautavaara later revised the piece and added a repetition of the opening melody in the first section of the finale.

16. My interpretation is based on the octatonic melody, which, as has been mentioned, contains all pitch classes of the four structural triads. Granted, the parallel triads (A-B♭-A-G) that often accompany the bass ostinati in the beginning of the finale contain notes (F, D, and B) that do not belong to the octatonic collection and therefore to the structural triads. But I view their presence more as a result of linear voice leading than of structural harmonies (or deviation thereof).

17. The harmonies marked in the example are slightly simplified for the purpose of conciseness.



Example 6.16a. The harmonies of mm. 101–105.

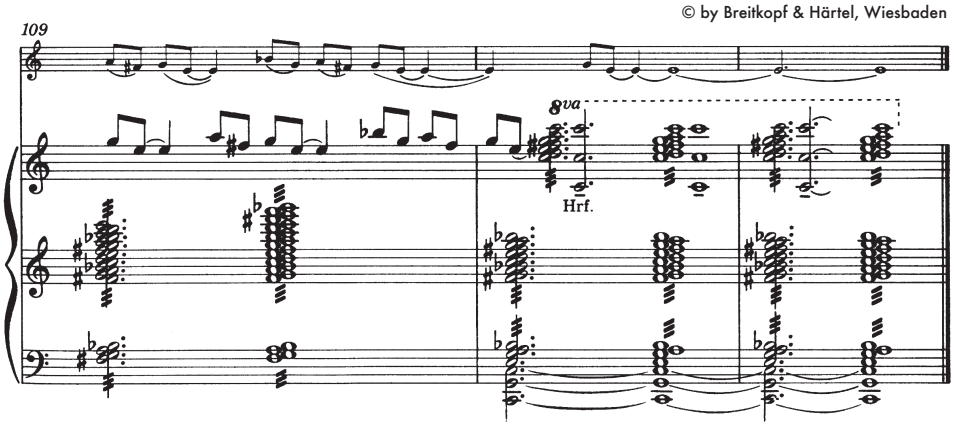


Example 6.16b. The harmonic motion in m. 104.

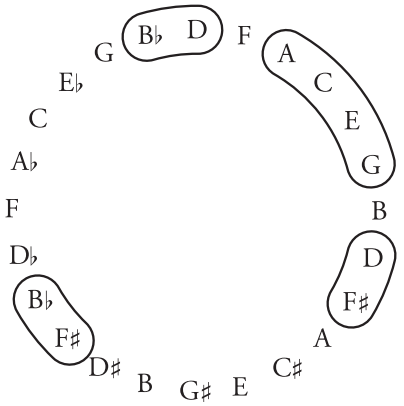
ing appearance in double stops in the middle of the cadenza in measure 66), now in a monophonic, linear form. This has been alluded to throughout the finale in the cello melodies, but now, finally, the main motif appears in its familiar rhythmic profile, but without the double stops that have previously been its hallmarks. The final guise of the main motif shows it stripped of the harmonic tension that has in all previous appearances been associated with it (cf. Example 6.13). The motif soon turns into a legato line of descending minor thirds, which end the concerto atop orchestral tremolos (Example 6.17a).

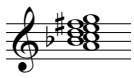
These tremolos transform the previously all-pervading octatonic harmonies into a slightly less tense harmony by replacing the lower half[18] of the octatonic scale by a whole-tone scale. Therefore, the harmonic base in the coda is formed by the notes C-D-E-F♯-G-A-B♭. It has a flavor of the Lydian church mode, except for the lowered seventh scale degree. This same harmony is present also at the end of the second movement, but supported by a D bass tone, whereas in the finale the bass tone is C. Why this particular harmony and not the octatonic collection, which has been so prevalent before throughout the concerto? A likely explanation for Rautavaara's choice of this harmony is that by replacing the C♯ and D♯ of the octatonic scale by D♮, there are no semitonal clashes with the root C or the major third E. Therefore, the harmony will be interpreted as C major with modal inflections on the fourth and seventh scale degrees. By the same token, at the end of the second movement, the omission of the notes C♯ and D♯ from a harmony with a D bass support removes semitonal clashes with the root.

18. While the uniform interval order of a synthetic scale resists any centricity, the collection here can be interpreted as "the lower half" if one takes C as the root tone, as is the case here on the basis of the bass root in the final two measures.



Example 6.17a. Cello Concerto No. 1, third movement, mm. 109–111.





Example 6.17b (left). The harmony of mm. 107–111 on the Harmonic Circle. 6.17c (above). The harmony grouped as a combination of two tertian chords.

On the Harmonic Circle, this harmony can perhaps best be tracked by highlighting its symmetry (Example 6.17b). The tritones that F♯ and B♭ form with C and E, respectively, are situated on opposite sides of the circle. At the same time, F♯ and B♭ form major thirds above and below D. These, too, are indicated in Example 6.17b, and the four segments lie in a symmetrical configuration around the Harmonic Circle, the axis of symmetry lying between the dyads B♭-F♯ and C-E—i.e., the chord is symmetrical around a D/A♭ axis, as is usually the case with Rautavaara's symmetrical harmonies. Example 6.17b also groups the pitch classes of the harmony into two tertian subsets; as Example 6.17c suggests, the harmony can be thought of as a combination of an B♭ augmented triad and an A minor seventh chord, where the augmented chord is distributed as three distinct dyads, found in a symmetrical formation on three segments of the Harmonic Circle, and the seventh chord on a continuous four-note segment.

The overall motion of the concerto, then, is directed away from the tritonal poles of the four structural triads that are so all-pervading in the first half of the concerto.

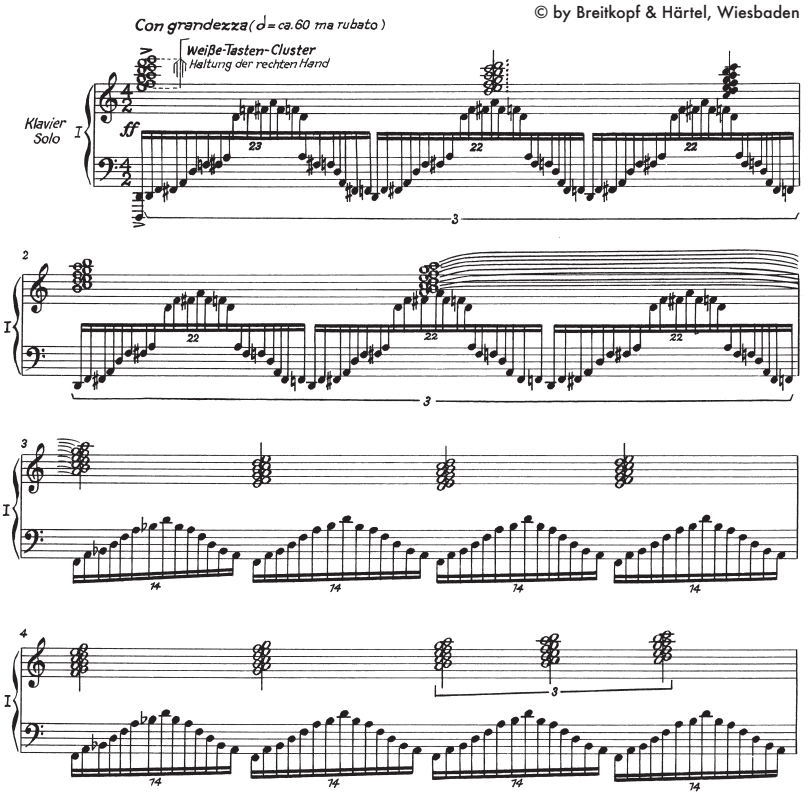
As the music progresses, the harmonies and melodies venture away from the structural triads. From the beginning of the second movement, there are slight modal inflections in the harmonies, and that movement concludes at the end on a relatively unambiguous symmetrical harmony. In the third movement, the music continues to stray away from the concerto's initial harmonic situation and ends on the same symmetrical harmony, albeit with a different root support as the second movement. As in the second movement, the ending is rather consonant relative to the tension created by the four structural triads.

6.3.2 Piano Concerto No. 1

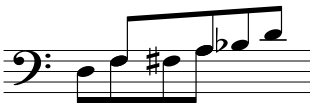
As both works have a traditional three-movement layout, Rautavaara's Piano Concerto No. 1 has in part a similar overall dramatic form as his Cello Concerto No. 1. In both concertos, the opening movement is a tense, stark, and energetic movement, while the second movement is a calm haven where the tensions of the opening movement attempt to resolve. The final resolution is then achieved in the finales, which are fast, mobile, and seemingly carefree.

Just like the cello concerto, the piano concerto begins with an impassioned monologue by the soloist. The pianist plays octave clusters in the right hand, while the left hand accompanies them with arpeggiated chords. The harmonies of the right-hand clusters are all "white"—played on white keys of the piano. On the left hand, the initial D major/minor harmony shifts to a B♭ major seventh harmony in measures 3–4 (Example 6.18). In measures 5–6, the D major/minor harmony returns, and shifts to a G major/minor harmony in measures 7–8.

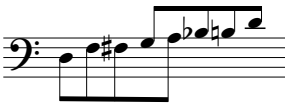
Taken together, the arpeggiated chords of mm. 1–4 create a symmetrical harmony (Example 6.19a), as do, respectively, the chords of the following four measures (Example 6.19b). Their symmetry is visible also when tracked on the Harmonic Circle (Example 6.20). The dotted lines indicate the clustered white chords that the right hand plays, while the solid lines indicate the harmonies created by the arpeggiated left hand chords. As the example shows, the arpeggiated harmonies lie on either side of the white collection of the right hand; in Example 6.20a, the D major/minor chord (marked as number 1) contains a D major triad from the southeastern quadrant of the Circle plus an F♮ from the northern quadrant, and the B♭ major seventh chord (marked as number 2) contains a B♭ major triad from the northern quadrant plus an A from the southeastern quadrant. Likewise, the chords in measures 5–8 are shown in Example 6.20b. The D major/minor chord is identical to the one in Example 6.20a, while the G major/minor chord contains a G minor chord from the northern quadrant plus a B♮ from the eastern quadrant.



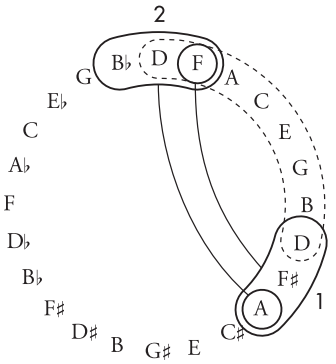
Example 6.18. Piano Concerto No. 1, first movement, mm. 1–4.



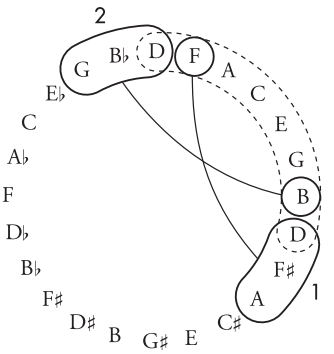
Example 6.19a. The harmonies of mm. 1–4.



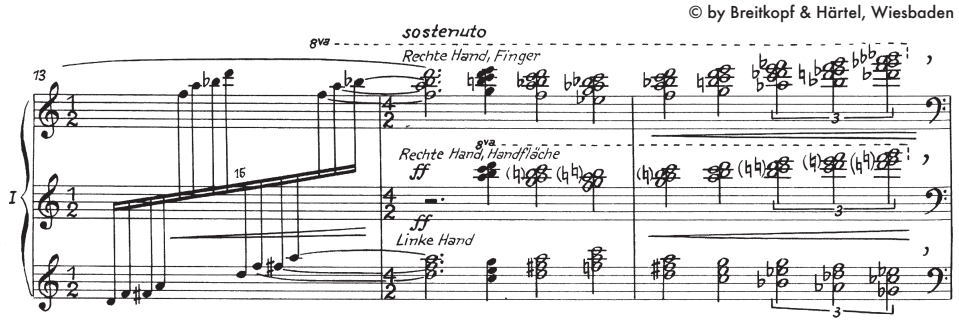
Example 6.19b. The harmonies of mm. 5–8.



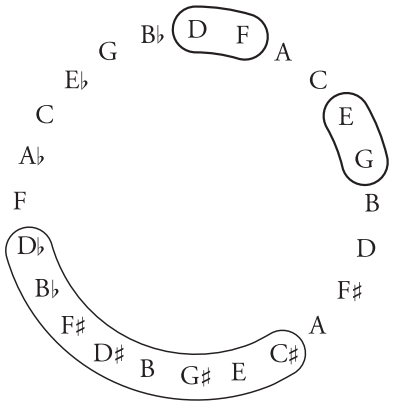
Example 6.20a. The harmonies of mm. 1–4 on the Harmonic Circle.



Example 6.20b. The harmonies of mm. 5–8 on the Harmonic Circle.



Example 6.21a. Piano Concerto No. 1, movement 1, mm. 13–15.



Example 6.21b. The chord on the last beat of m. 15 in Example 6.21a on the Harmonic Circle.

The opening situation of the concerto, then, has the music predominantly in the white diatonic collection, with frequent and symmetrically alternating ventures to the verges of that tonal area. In following measures, the D major/minor arpeggios alternate also with F major seventh arpeggios (cf. the first halves of mm. 10 and 11), which are contained in the white sonorities of the right hand clusters—they only appear after the clusters are replaced by homophonic melodies in those two measures, so they could be interpreted as prolonging the white-note clusters even after the clusters themselves have disappeared from the texture. Clusters soon reappear at the end of the opening cadenza (Example 6.21a). In these clusters, the harmonies proceed in symmetrical contrary motion from the initial symmetrical chord (on the downbeat of measure 14; the harmony is the same that is indicated by the solid lines in Example 6.20a above) to the predominantly black-note clusters of the final half note of measure 15. Only the notes played by the palm of the pianist's right hand (the middle system of Example 6.21a) are found in a distinct part (the white area) of the Harmonic Circle (Example 6.21b).[19]

19. The area occupied by the main harmony in Example 6.21b is not directly opposite the white area, which lies in the northeastern quadrant of the Harmonic Circle, between the

The piano cadenza lays out the harmonic basis of the first movement. Much of the music in this nearly 10-minute long movement draws its harmonic tension from the opposition of the initial "white" harmony (mm 1–14) and the subsequent "black" one (m. 15). Symmetrical harmonies seem to hover somewhere in the middle or to mix the stark black and white harmonies. The symmetrical chords indicated in Example 6.20 are one instance; later on there are similar polychordal harmonies that combine to create symmetrical formations. For example, a string interlude in measures 26–27 combines first an E♭ major/minor chord with a C major/minor chord and then an F major/minor chord with a D♭ major/minor chord, creating pitch-class collections with symmetrical interval structures. This is immediately followed by the secondary theme of the movement (mm. 29–39, with a varied repetition in mm. 40–45), where piano melodies are accompanied by a stark polytonal harmony that combines the opposing black and white F♯ and C major triads.

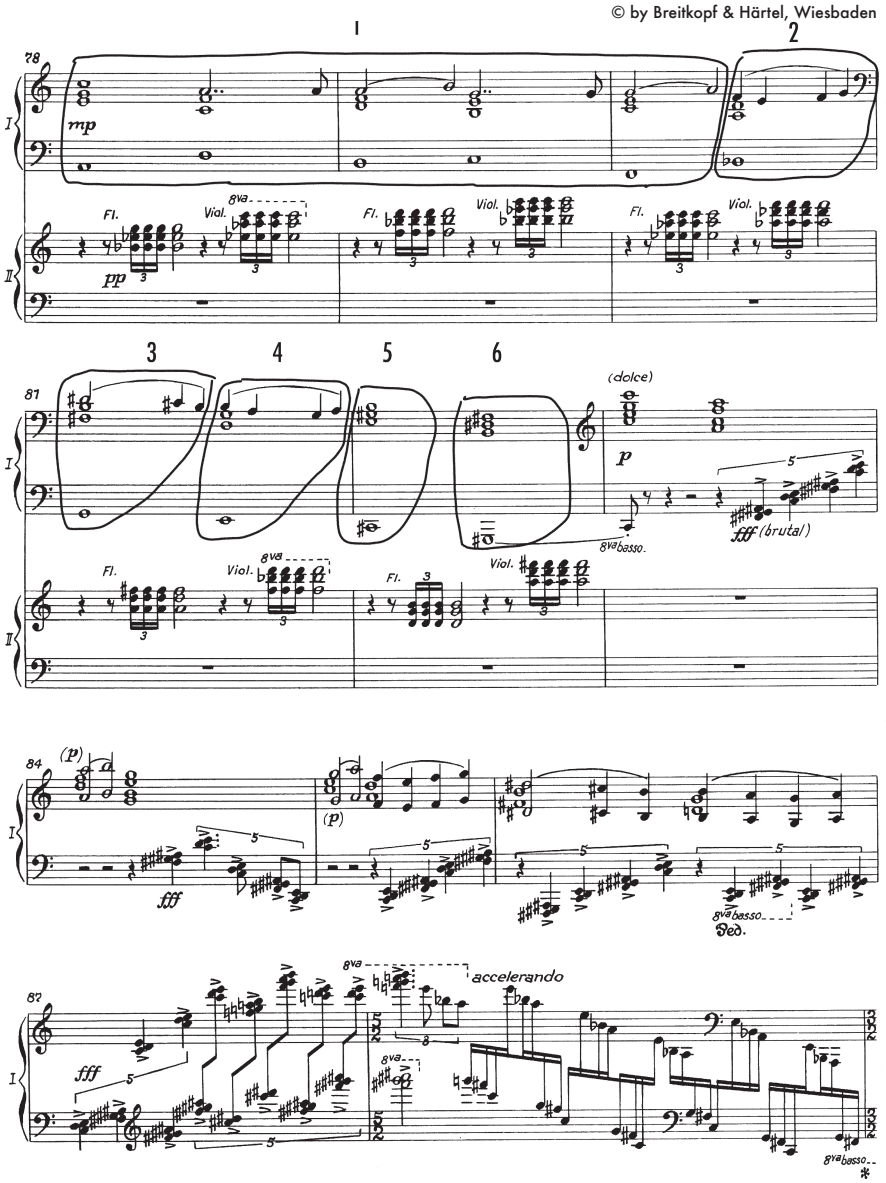
Further on, a third theme (mm. 46–53) combines white and black clusters in the melody. The collision of the white and black spheres comes to a head in the dramatic climax of the movement, occurring roughly halfway through the movement (mm. 68–88). It consists of three repetitions of the same theme. The first one (mm. 68–77) is in a noble guise, with brass fanfares accompanying. The second one (mm. 78–82) is quieter, with the preceding brass fanfares passing on to flutes and violins, whose triplet motives clash polychordally with the piano melody and harmony. The climax occurs in the third repetition (mm. 83–88). There, the gentle piano melody, now heard for the third time, is violently interrupted by *forte fortissimo* clusters of the left hand (Example 6.22a).

The first half of the piano theme, seen in measures 78–80, consists solely of notes in the white tonal sphere. In the second half, the theme traverses predominantly to the black side, returning to the white side for brief durations (Example 6.22b).[20] In the third repetition of the theme, the left-hand clusters alternate at first white and black three-note clusters (C-D-E and F♯-G♯-A♯) before pitting white and black against each other in measure 87, with the pianist's left hand playing black notes and right hand playing white notes.

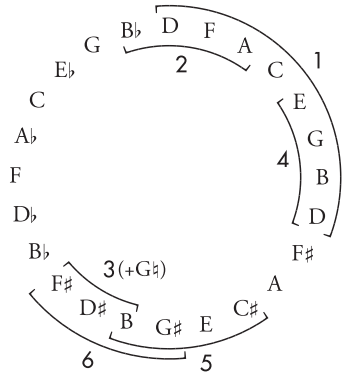
Starting in measure 89, the remainder of the movement is essentially a varied repetition—or a recapitulation—of the first half. The movement ends with a return

two D pitches. Its black complement would be in the southwestern quadrant, extending from G♯ to A♭.

20. In the chord labeled with ordinal number 3, the B major triad on the right hand clashes sharply with the G bass note on the left hand. The chord would sound much more consonant if the bass note were G♯ instead of G♮; then it would lie adjacent to the B major triad in the southeastern quadrant of the Harmonic Circle.



Example 6.22a (above). Piano Concerto No. 1, movement 1, mm. 78–88.



Example 6.22b (right). The harmonies of the piano in mm. 78–82 on the Harmonic Circle.

of the opening theme, now with the clusters of the pianist's right hand expanded to arm clusters, each spanning three octaves. The clusters are again constructed of exclusively white notes, and as before, accompanied by similar arpeggiated chords as in the beginning.

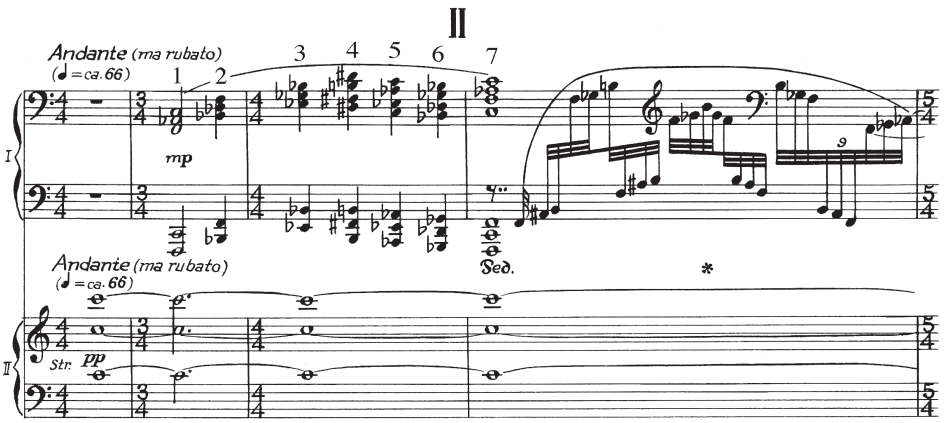
The harmonic space of the first movement, then, traverses from the predominantly white sonorities of the opening cadenza to various degrees of tension between white and black sonorities throughout the movement, culminating in the central section, where violent cluster eruptions contain both white and black elements. At the end of the movement, the white harmonies of the opening cadenza are renewed even more assuredly as each of the pianist's white clusters now encompass a three-octave range instead of the one-octave clusters of the opening section.

By contrast, the second movement is dominated by black sonorities. The movement is one of Rautavaara's great settings of dream-like, otherworldly serenity. A long, drawn-out pedal point on the strings creates a scene where nothing moves, except the themes of the piano, undulating gently between solemn chorale chords and glimmering figuration. The chorale chords in particular are found on the black side of the Harmonic Circle (Example 6.23). The arpeggiated chords in this initial situation consist of notes within the chorale chords (the notes of the symmetrical chord are indicated by solid lines around the notes in Example 6.23b), but they soon venture to the outskirts of the black harmonies of the chorales—in an analogous situation to the one that exists between the clusters and arpeggiated chords in the beginning of the first movement.

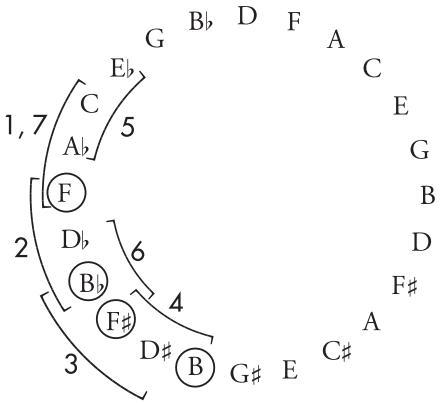
It seems like the chorale textures and arpeggios could go on forever, but eventually a theme from the first movement emerges quietly on the violins. The theme sets things in motion; it pulls the music away from its previous reveries and leads into a reappearance of clusters, an even more violent one than in the first movement. It is a rude awakening to a brutal reality, a reality that is exposed in all its barbarity in a solo cadenza that ties the slow movement to the finale.

The violin melody is accompanied by the piano soloist with arpeggio textures in both hands. In these arpeggios the pianist plays different harmonies with each hand. When the right hand plays white harmonies, the left hand is left with black harmonies, and vice versa; the roles change in every measure. This in turn reflects the character of the string melodies: the first half of the theme is played with exclusively white notes, and the second half with black notes—with the exception of the final triplet, which again turns to white harmonies (Example 6.24).

This is a turning point in the movement. After the lengthy reveries of the beginning of the movement, there are now reminiscences of the first movement; first in

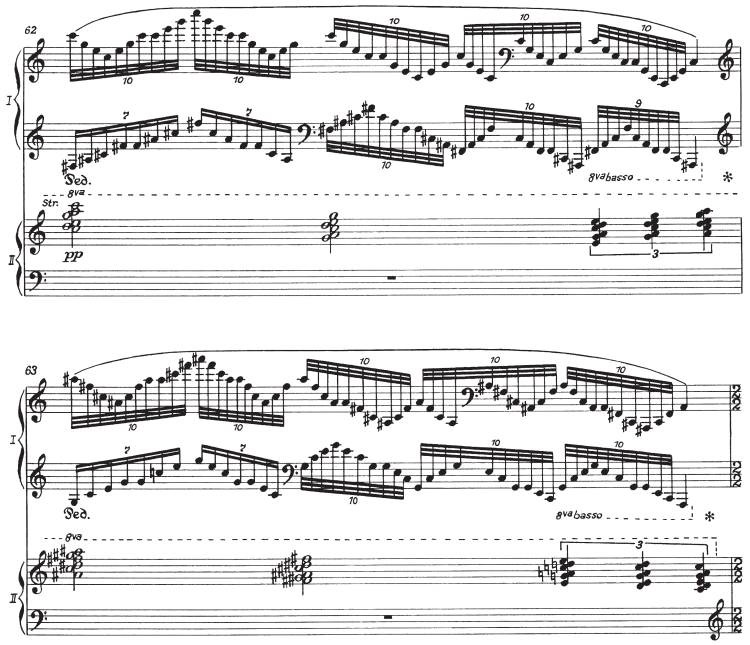


Example 6.23a (above). Piano Concerto No. 1, movement 2, mm. 1–4.



Example 6.23b (right). The harmonies of Example 6.23a on the Harmonic Circle.

Example 6.24 (below). Piano Concerto No. 1, movement 2, mm. 62–63.



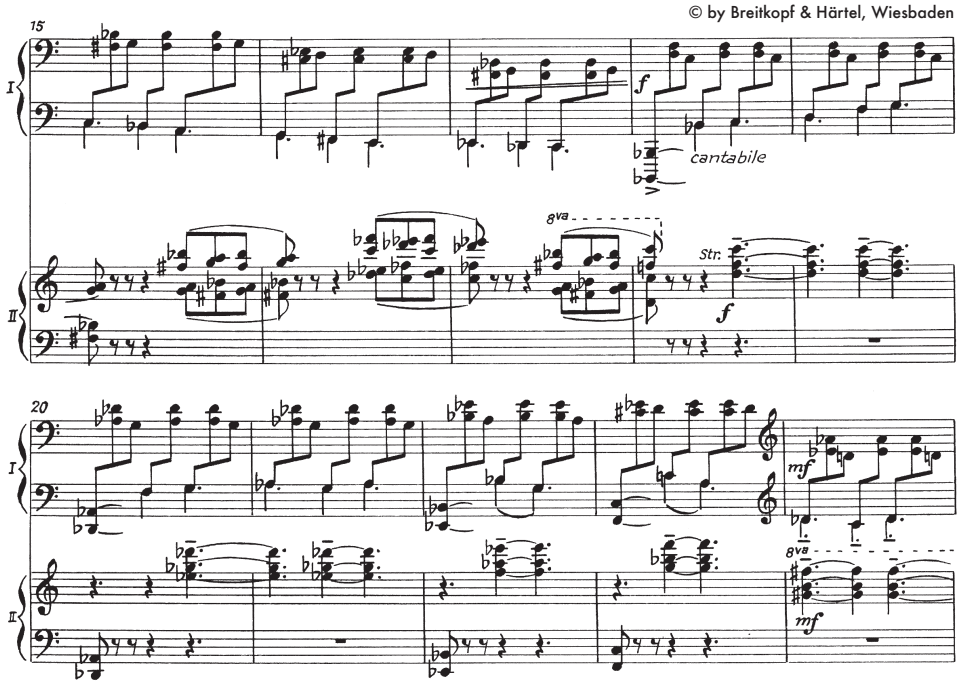
the string melody and soon with violent clusters (mm. 67–68), which erupt from the pianist's glissandi in the preceding three measures. The glissandi start from the low register in piano dynamics, and, as per Rautavaara's instructions, encompass both white and black notes. The following clusters, in *forte fortissimo*, again divide into black and white tonalities in the two hands of the soloist. The clusters lead into a cadenza, which is initially interspersed with quiet—perhaps nostalgic—reminiscences of the chorale theme of the first movement in the strings. The cadenza proper (mm. 87–104) incorporates nearly all of the harmonic devices that Rautavaara has thus far used in the concerto. The cadenza begins with symmetrical contrary motion and continues with arpeggios that divide into white and black; quiet chorale-like chords then lead into violent clusters, again starkly divided into white and black. A symmetrical inversion of the chorale chords then follows and leads into piano arpeggios, again divided into black and white.

Of the main harmonic materials of the concerto, only overt polytonal harmonies are missing from the cadenza. They are referred to by the stark division into black and white, which of course has its source in the opposing harmonic spheres—the most prominent such opposition being the contrast inherent within a C major/F♯ major chord. That contrast comes strongly to the fore in the latter half of the slow movement, after an extended time in the predominantly black harmonies in the first half. But at the end, the conflict between black and white is reasserted and remains unresolved at the end of the movement.

The finale of the concerto seems to eschew the troubled sentiments of the preceding two movements. The movement is a fast application of one of Rautavaara's favorite rhythmic devices, a 3-2-3 rhythm which divides a duple time measure symmetrically. The pianist's left hand assumes melodic duties in this texture, as the right hand fills the weaker beats with flurried and cluster-like harmonies.[21] The fast pace of the finale makes the harmonies change quite rapidly. The piano textures are predominantly triad-based, with some added notes. There are some polytonal implications in the orchestra accompaniment right from the start, but far weightier are the triadic harmonies emphasized by bass root progressions (Example 6.25).

The strong, almost tonal-sounding bass progression B♭-D♭-E♭-F in Example 6.25 is, however, an exception in the textures of the finale, and of course the very exceptionality of it emphasizes its importance for the listener. Far more common are sparse orchestral textures in the mid registers that seem to hover in air, as they lack strong bass support.

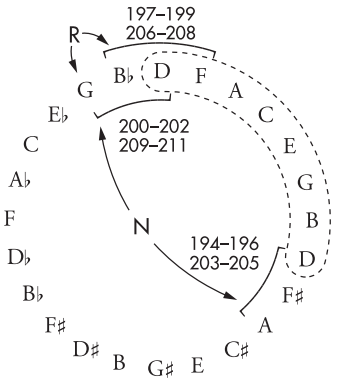
21. They are not actual clusters, but their fast pace and small intervals (often minor seconds) make the constituent notes blend together in the listener's perception.



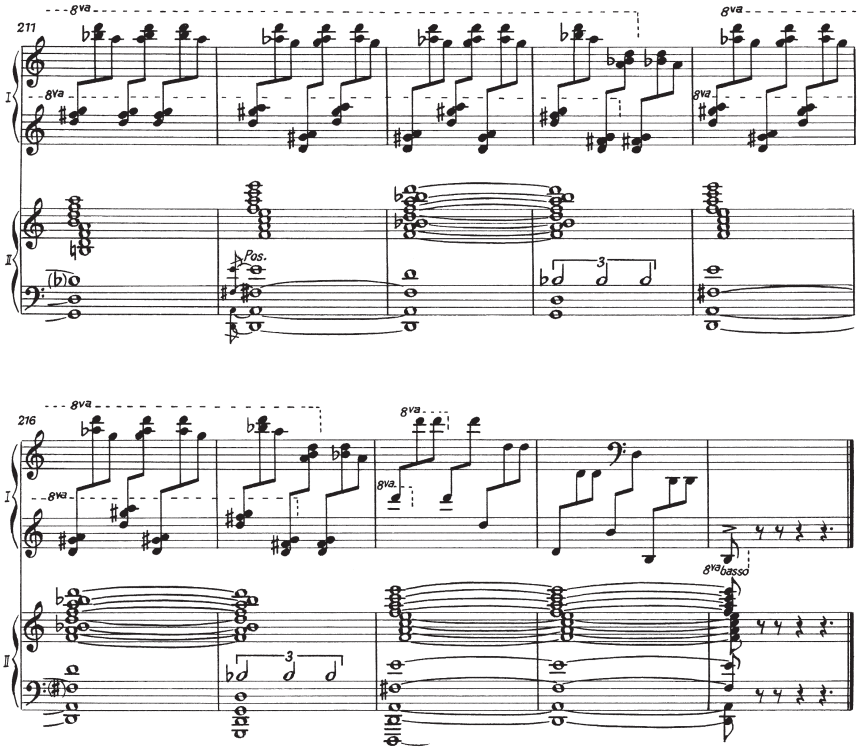
Example 6.25. Piano Concerto No. 1, movement 3, mm. 15–24.

The overall form of the finale is strophic, much like the opening movement. Here, too, the A section is repeated, starting roughly in the middle of the movement (A: mm. 1–124; A': mm. 125–220). Towards the end of the A section, the music comes into harmonic focus as countersubjects to the unrelenting 3-2-3 rhythms appear. In measures 71–80, the horns play the chorale theme from the first movement, but the music subsequently dissolves into more ambiguous symmetrical harmonies, which tend to neutralize the harmonic directionality of the chorale theme, even as the surface of the music surges onwards with registral leaps and dynamic fluctuations.

The repetition of the opening section brings about a new start (mm. 125ff). This time around, the music culminates in a reference to the opening cluster theme of the first movement (mm. 194–220). Now it is played by the orchestra in parallel seventh chords which are supported by drawn-out triads in the bass register. All the parallel seventh chords remain in the white area of the Harmonic Circle, while the D major – B♭ major – G minor triad progressions in the bass register circle around the white area (Example 6.26; the G minor and B♭ major are related by R, and the G minor and D major by N). This was also the case with the harmonies in the beginning of the opening movement. The piano carries on with its 3-2-3 rhythms the whole time and its harmonies remain ambiguously symmetrical. Only in the very end does the piano settle on a single note—the axis of symmetry, D, repeated in all registers from

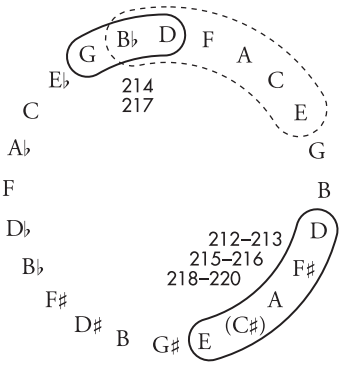


Example 6.26 (left). The harmonies of mm. 194–211.



Example 6.27a (above). Piano Concerto No. 1, movement 3, mm. 211–220.

Example 6.27b (right). The harmonies of mm. 212–220 of Example 6.27a on the Harmonic Circle. The segment indicated with a dotted line condenses together the treble line of piano II (orchestra). Its harmonies are not synchronized with the bass line and harmony in the bass clef.



high to low (Example 6.27). In the final measures, the three triads of the orchestral accompaniment are condensed into two: a B♭ major/G minor chord and a D major added-ninth chord, which continue to flank the white harmonic area (with the note E of the D major added-ninth chord seen either as belonging to the white harmony or as a proper ninth in the southern quadrant of the Circle, with the seventh, C♯, missing).

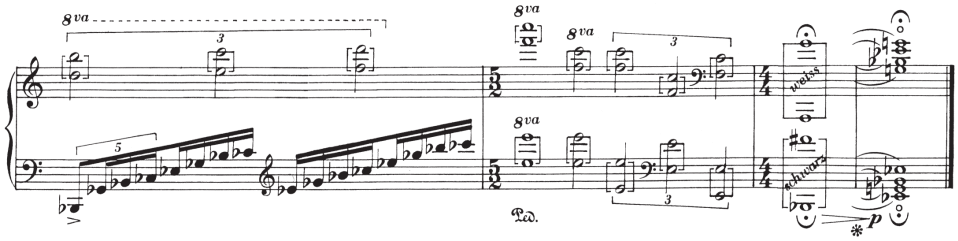
6.3.3 Piano Sonatas No. 1 and No. 2

Rautavaara's two piano sonatas, written in 1969 and 1970, are temporally and stylistically quite close to each other. They share similar features—harmonic, gestural, and melodic—as other works of this period, such as the cello and piano concertos discussed above. Both sonatas abound in symmetrical structures and Rautavaara's characteristic 3-2-3 rhythms. The first sonata *Christus und die Fischer* is somewhat more constructivist in its conception; it does not focus primarily on tertian harmonies, but its harmonies are based on fifths. In this, the sonata recalls the piano Etudes that Rautavaara wrote shortly before the sonatas—each of the etudes is based on a single interval.

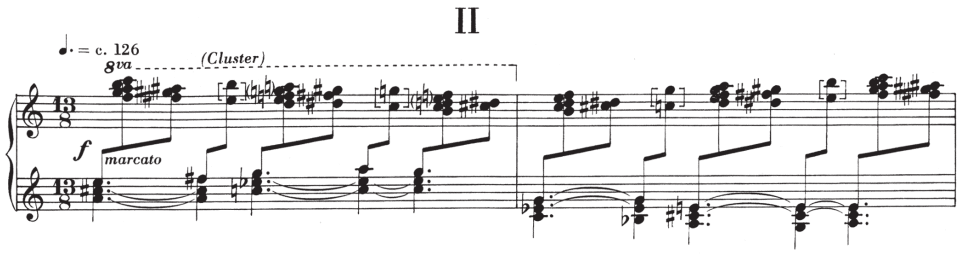
There are various levels of symmetry in the first movement of *Christus und die Fischer*. The secondary theme is explicitly symmetrical as the hands of the pianist play in strict contrary motion around a D/A♭ axis. Moreover, the first half of the first movement (mm. 1–41) is a play of inversions: measures 1–26 are repeated in strict inversion (with the roles of the pianist's hands reversed) in measures 28–41. The repetition is an abridged one, as it omits the secondary theme and the second appearance of the main theme.

As fifths motifs and symmetricity are such central principles of pitch-class organization in this piece, there are not as clear tritonal poles or divisions into black and white as in the two concertos discussed above—or in the second piano sonata, discussed below. Such devices arise in those compositions from distinct, tritonally related triads, quite clearly delineated harmonic areas, and synthetic scales. The all-pervading fifths in *Christus und die Fischer*, by contrast, tend to distribute the chords around the Harmonic Circle without forming clear areas. Symmetrical structures, too, often contain seconds and other intervals that do not easily show on the (thirds-based) Harmonic Circle but tend to be located widely around it.

Division into opposing black and white harmonies is nevertheless not a major issue in this piece. There are some such instances, but they seem to arise more from playing technique than from exploiting the tension that exists between opposing harmonies. For instance, at the end of the first movement, the pianist plays a white cluster



Example 6.28a. Piano Sonata No. 1, movement 1, mm. 70–73.

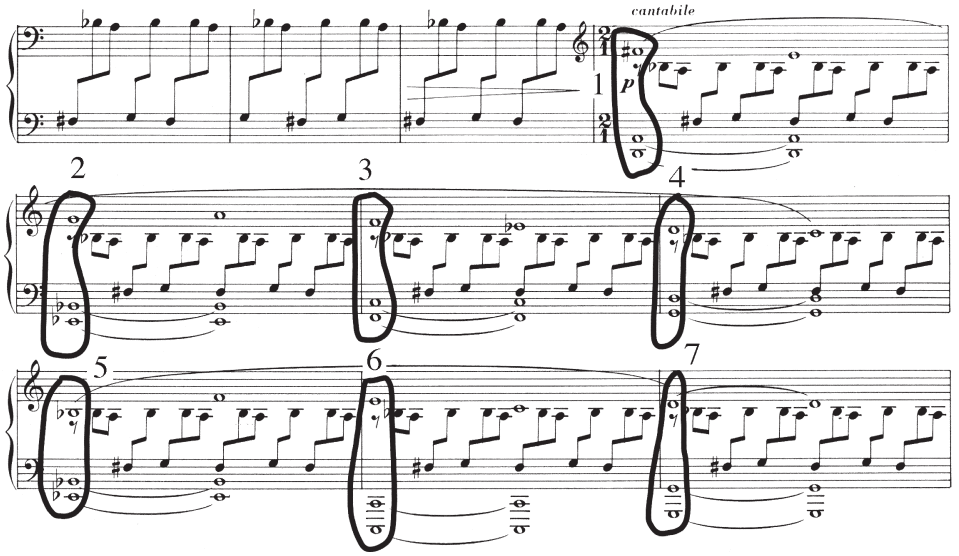


Example 6.28b. Piano Sonata No. 1, movement 2, mm. 1–2.

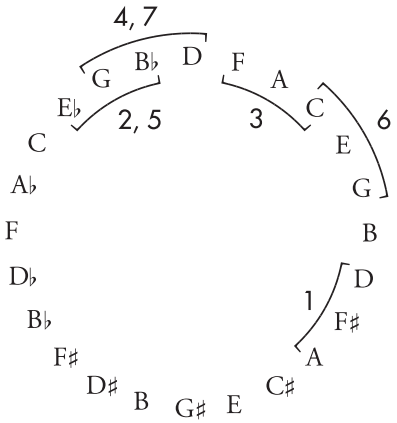
with the right hand and a black one with the left, but as the clusters are both in the same register, the resulting cluster is chromatic (Example 6.28a).[22] Likewise, the second movement begins with the pianist alternating white and black clusters in the right hand, but there, too, the reason seems to be practical; the white clusters are played with the palm and the black clusters with fingers, and the alternation of the palm and fingers makes the fast tempo of the cluster textures possible (Example 6.28b).

Rautavaara's second piano sonata *The Fire Sermon*, by contrast, is fueled by a battle between opposing harmonies. From the start, the passages in 3-2-3 rhythms are arranged symmetrically. Initially, the right hand plays black harmonies and the left hand white ones, all notes arranged tightly around an A♭ axis to create a chromatic field. Soon the harmonies start expanding but remain symmetrically arranged throughout the 3-2-3 passage (measures 1–77; also in the recurrences of the rhythm in mm. 82–94 and 103–117). As symmetrical harmonies are rather neutral in character, lacking the directionality of tonal and tertian passages, the opening section seems to be suspended in limbo, with only foreground activity (registral play, accentuation) keeping the music in motion. Harmonic activity stays relatively static in its all-pervading symmetricity. This is why a triadic theme makes a strong impression when it enters in measure 52. It has open fifths in the bass root and melodies in the alto reg-

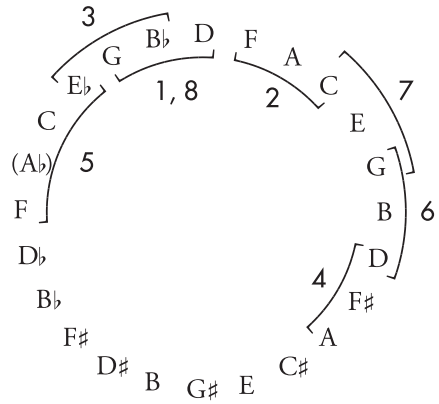
22. In Piano Sonata No. 1, all clusters are chromatic unless otherwise noted. This is why there is no division into black and white in m. 70 of Example 6.28a, even though the pianist's left hand plays black notes exclusively—the right-hand clusters are chromatic, as are the clusters in measure 71.



Example 6.29a. Piano Sonata No. 2, movement 1, mm. 49–58.



Example 6.29b. The harmonies of measures 52–58.

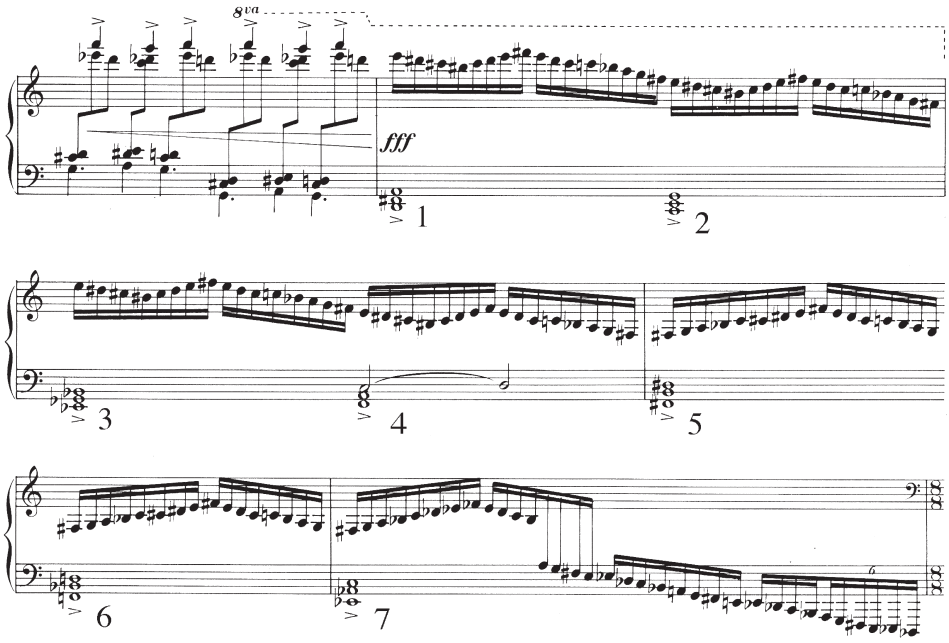


Example 6.29c. The harmonies of measures 60–67.

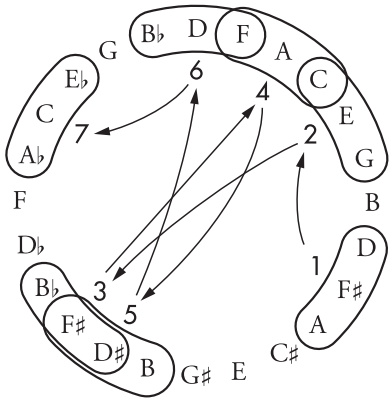
ister, both surrounding the symmetrical harmony in 3-2-3 rhythms in the tenor register. At first, the theme proceeds from D major to G minor—the G-based harmony initially lacks a third, but the B♭ in the symmetrical field is heard as a minor third. In later instances of the G-based harmony, the minor third B♭ is usually present. The G minor can be heard as the goal of the motion—perhaps with the D major as a dominant—and this impression is further enhanced by subsequent motion in measures 60–67, where G minor is both the starting and ending point (Example 6.29).[23]

The melody of the latter passage, particularly the rising line D-G-A-C-D, moving

23. The A-based harmony in measure 59 (not included in the example) is heard as a neighboring motion between the two G minor harmonies.



Example 6.30a. Piano Sonata No. 2, movement 1, mm. 77–81.



Example 6.30b. The harmonies of mm. 78–81 on the Harmonic Circle.

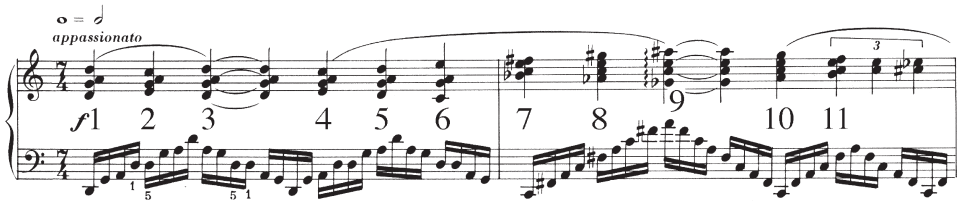
in contrary motion to the harmonic line G minor – F major – E♭ major (measures 60–62), will become the main theme of the movement. For now, it is soon over and leads to symmetrical passages in measures 67–77. They culminate in a weighty triad theme in the bass, accompanied by octatonic figuration in the right hand (Example 6.30a). The triad theme traverses from one side (D major) to the opposite (A♭ major) on the Harmonic Circle, and the audible tension between the triads in the passage is well illustrated by leaps to different sides of the Circle (Example 6.30b). This passage does not therefore resolve any harmonic tension, but merely extends the limbo-like situation created by the all-pervading symmetricity.

Symmetrical harmonies in 3-2-3 rhythm soon reappear and lead to yet another manifestation of symmetrical writing. The voices of the theme move in symmetrical contrary motion; when traced on the Harmonic Circle the theme illustrates the unsituatedness of symmetrical writing (Example 6.31). Example 6.31b shows the harmonies of measure 95 and 6.31c the harmonies of measure 96.[24] As before, the chords are symmetrical around a D/A♭ axis and the mappings in Example 6.31 offer a way of visualizing their symmetricity and the resulting unsituatedness (the axis of symmetry can be imagined to pass through the C-E dyad in the northeast quadrant and the F♯-B♭ dyad in the southwest quadrant, as seen in Example 6.32). In Examples 6.31b and 6.31c, constant notes are indicated by solid lines and moving notes by dotted lines. In measure 95, the notes G and A remain constant while the outer voices of the tetrachords move around an A♭ axis. The moving notes can be seen in Example 6.31b as moving in tandem, on either side of the axis of symmetry. A similar motion can be seen in measure 96 (Example 6.31b). In this measure, C and E remain constant while the outer voices move, this time around a D axis.[25] The following measures in this passage (mm. 95–102) continue with similar symmetrical motions. Please note that the tone pairs indicated in Examples 6.31b and 6.31c are often merely suggestions of the way of indicating them on the Harmonic Circle; the same pairs can in many cases be found in other parts of the Circle, laid out symmetrically around the same D/A♭ axis. The two C-E dyads indicated in Example 6.31b are a case in point and are both equally convincing.

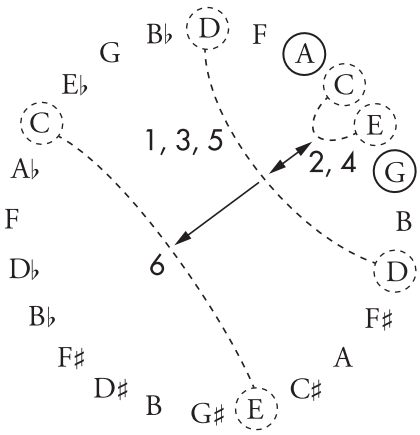
After a brief reprise of the opening 3-2-3 motives, the music proceeds to the climax of the movement. Here the D-G-A-C-D theme culminates, constantly rising to a higher register with each repetition, over a bass cluster. The movement ends in a tense harmony in measures 136–141; over a constantly repeated C major chord in the right hand, the left hand first doubles the C major in different registers before moving to a tritonally related F♯ major, then an E♭ minor, and finally, an A major chord, leaving the A major and C major chords ringing together as the music proceeds to the second movement (Example 6.33). These chords are nearly identical to the four structural triads of Rautavaara's Cello Concerto No. 1, only with the E♭ major chord of the concerto replaced by an E♭ minor; both chords (E♭ major and minor) belong to the same octatonic collection (OCT 0,1) as the other chords in this passage. The consecutive F♯ major and E♭ minor chords have two common tones, both squarely in

24. The two final dyads C-E and C♯-E♭ are omitted in the example for purposes of clarity. The dyads can be found, as can the rest of the chords in the example, symmetrically around the D-A♭ axis.

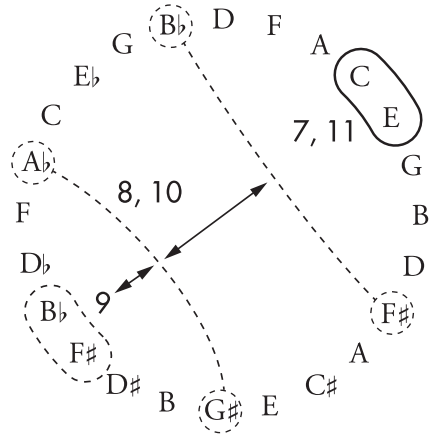
25. Note that the constant tones share the axis of symmetry with the moving tones in both measures.



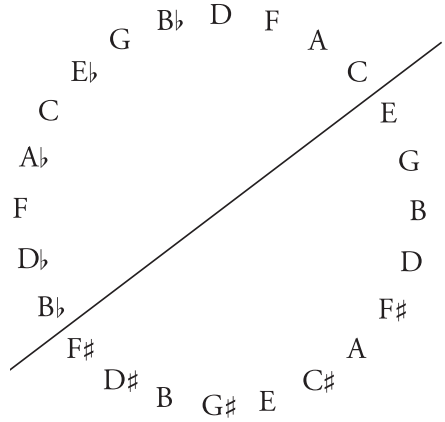
Example 6.31a. Piano Sonata No. 2, movement 1, mm. 95–96.



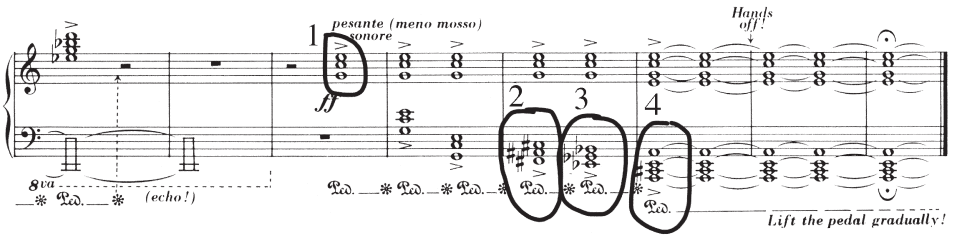
Example 6.31b. The harmonies of m. 95 on the Harmonic Circle.



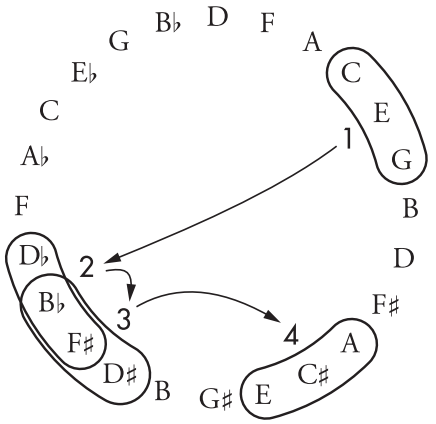
Example 6.31c. The harmonies of m. 96 on the Harmonic Circle.



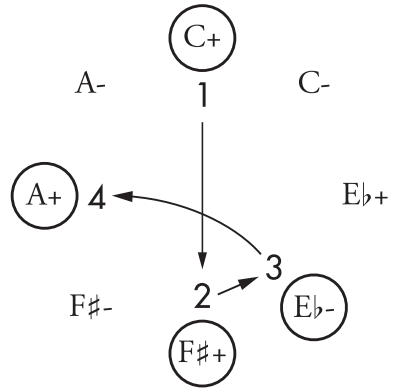
Example 6.32. A D–A♭ axis of symmetry can be imagined to pass through the Harmonic Circle. Notes on either side of the axis, at an equal number of steps away from the axis (such as A-G and F–B in the northeastern quadrant, are all symmetrically related around the axis.



Example 6.33a. Piano Sonata No.2, movement 1, mm. 134–141.



Example 6.33b. The passage of Example 6.33a tracked on the Harmonic Circle.



Example 6.33c. The passage of Example 6.33a tracked on an RP chain of triads.

the black side of the Harmonic Circle, creating a strong contrast with the constantly sounding white C major chord; the motion from E♭ minor to A major alleviates this tension somewhat (Example 6.33b) but still leaves the situation unresolved as the music proceeds to the second movement. An alternative and, in this case, perhaps a more elegant way of visualizing the harmonic motion is with an RP chain of triads, discussed above in connection to the Cello Concerto No. 1 in Examples 6.8 and 6.9. The RP chain maps back to the first triad after three alternating iterations of each operation. Therefore, the chain can be arranged as a circle. Adjacent triads on the circle will have two common tones and one semitonal inflection. The harmonic motion of Examples 6.33a and 6.33b is tracked on an RP chain in Example 6.33c.[26]

In terms of harmonic motion, the first movement of the sonata alternates between undirected symmetrical harmonies with more dramatic passages where clear-cut triadic harmonies appear. In the symmetrically arranged sections only the foreground figuration keeps the music in motion, whereas triadic harmonies introduce

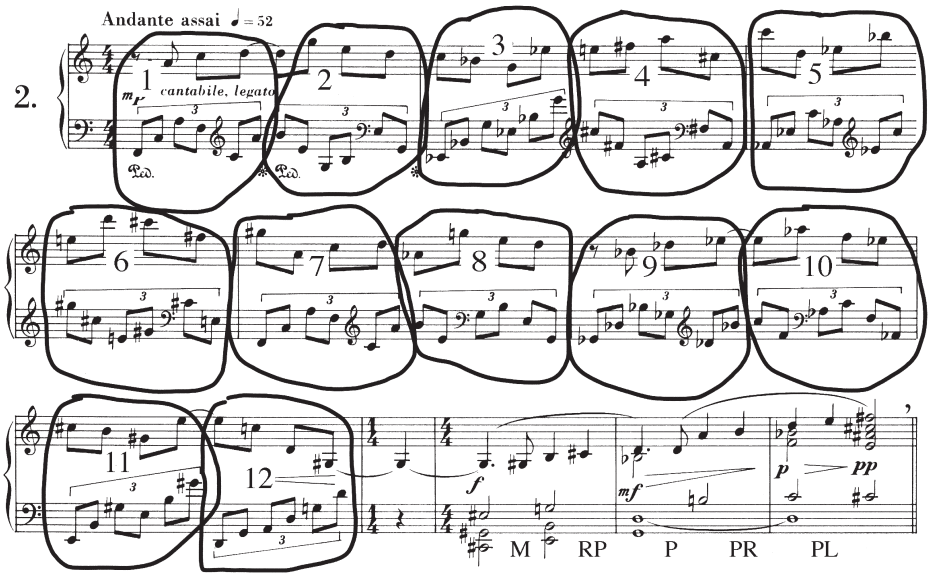
26. On the properties of binary cycles such as RP, see Cohn 1997.

more tension and directionality to the music. The rumbling 3-2-3 motives in the first section are rather anticipatory; they set the stage for more characteristic and memorable themes. The first such theme appears in measure 52 (cf. Example 6.29a), but it dissolves back to symmetrical writing in measures 67–77. Another theme appears in measures 78–81 with resonant triads in the bass (cf. Example 6.30a), but it, too, gives way to symmetrical 3-2-3 motives. The theme in measures 95–102 (cf. Example 6.31a) fuses together symmetrical and thematic writing, but because of its very symmetricity, the theme does not seem to have a particularly strong sense of direction. After a brief return to the opening 3-2-3 rumbling, the first theme seems to plunge into chaos, implicated by its descent into a bass cluster in measure 122. The theme attempts to rise from the cluster, appearing each time in a higher register, but any possible resolution is interrupted in the end by the appearance of white and black harmonies that vie for supremacy. The contest ends undecided (cf. Example 6.33).

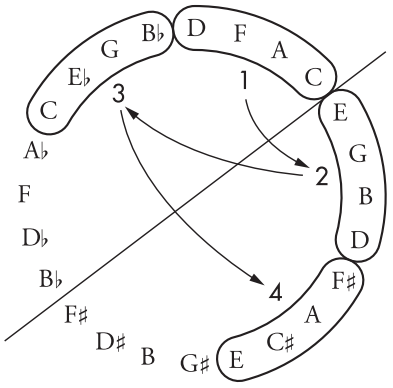
The second movement continues with the interplay of white and black harmonies. The music starts with a swaying theme, reminiscent of a barcarolle (Example 6.34). The harmonies of the theme swing from side to side on the Harmonic Circle; beginning with the white harmonies of measure 1, the harmonies reach the black side of the Harmonic Circle in measure 5 (at the chord labeled with the number 9 in Example 6.34d) before returning to the white side in measure 6 (Examples 6.34b–d). There are some chromatic inflections along the way; in measure 4, G♯ and A♭ create tritonal tension with D (harmonies labeled with ordinal numbers 7 and 8 in the example; the G♯ and A♭ can be found on the opposite side of the D pitches in the respective segments of the Circle), and in measure 6, the final G♯ in the right hand likewise creates tritonal tension with D. In this latter instance, G♯ leads to the resonant theme in measures 8–10. The motion between these segments is symmetrical around a D/A♭ axis, as Examples 6.34b–d show. The barcarolle theme leads into a more assertive, homophonic theme, where triadic motion can, for the most part, be tracked with compound neo-Riemannian operations, as the final measures of Example 6.34a indicate. The very nature of these operations as compound operations suggests expressive voice leading, with a significantly lesser degree of parsimony than in the standard LPR operations. In fact, the lone P operation between G minor and major chords stands out from its surroundings even auditively, as it retains two notes.[27]

The overall structure of the second movement can be summarized as follows. The movement begins with relatively peaceful barcarolle theme, which neverthe-

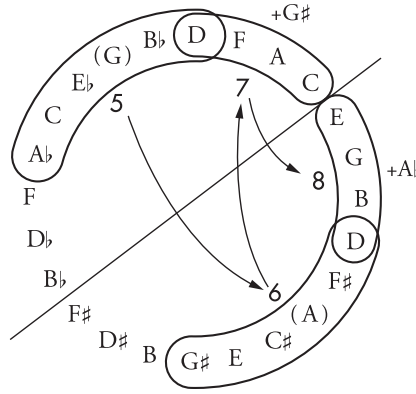
27. Note that in the analysis, the two tetrachords in the final measure (B♭-D-F-C and F♯-A♯-C♯-E) are treated as B♭ major and F♯ major triads, respectively, to investigate their triadic transformational properties along with the preceding triads.



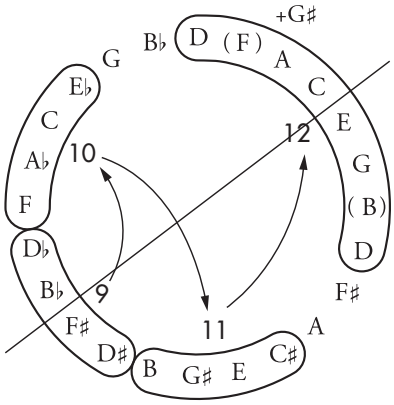
Example 6.34a



Example 6.34b



Example 6.34c



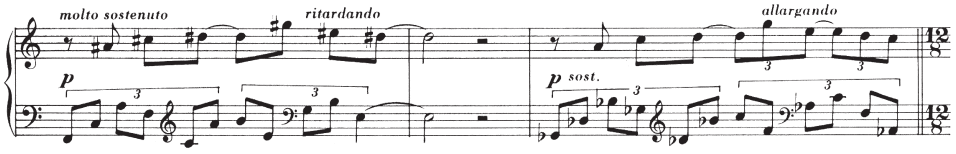
Example 6.34d

Example 6.34a. Piano Sonata No. 2, movement 2, mm. 1–10.

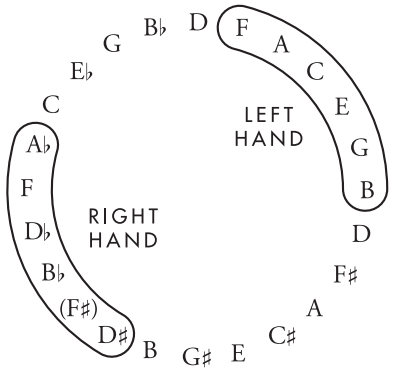
6.34b. The harmonies of mm. 1–2 on the Harmonic Circle.

6.34c. The harmonies of mm. 3–4 on the Harmonic Circle.

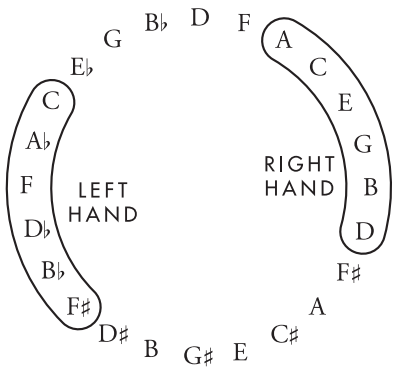
6.34d. The harmonies of mm. 5–6 on the Harmonic Circle.



Example 6.35a. Piano Sonata No. 2, movement 2, mm. 36–38.



Example 6.35b. The harmonies of m. 36 on the Harmonic Circle.



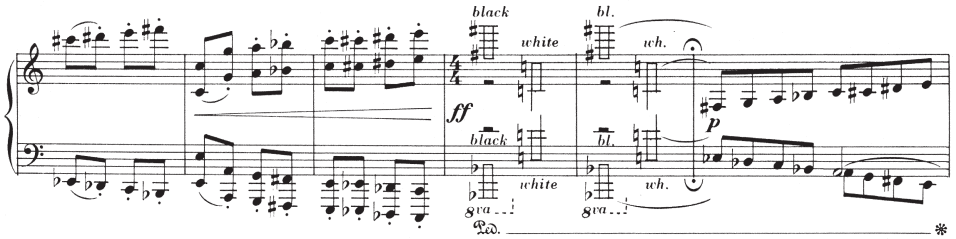
Example 6.35c. The harmonies of m. 38 on the Harmonic Circle.

less has a good amount of harmonic volatility due to its frequent modulations to different sides of the Harmonic Circle. After the theme has appeared for the first time in measures 1–6, it is interrupted by a more forceful theme in measures 8–10. After this, the barcarolle theme never reappears in its initial form, but in its both reappearances it is interrupted or transformed by previous interruptions. In its first reappearance it trails away after one measure (m. 21). It is supplanted first by a triad motive in symmetrical contrary motion (mm. 23–24) and then by an appassionato theme in parallel seventh chords, accompanied by arpeggiated seventh chords in the left hand (mm. 25–30). This theme proceeds to a catastrophe as the thematic seventh chords transform into clusters (mm. 31–34). The music pauses on the lowest A on the piano keyboard. The barcarolle theme then returns, but it is irrevocably altered by the violence of the clusters. At first, the pianist's right hand attempts to play the theme using black notes while the left hand plays white notes. After a pause, the roles are reversed: the right hand plays white notes and the left hand black notes (Example 6.35). The situation remains unresolved for the rest of the movement, as the coda (mm. 39–56) reverts once more to symmetrical harmonies that seem to float the music as if in a limbo with no clear resolution. In the end (mm. 52–56), the symmetrical harmonies evolve into clusters, adding a chaotic, destructive element to the music.

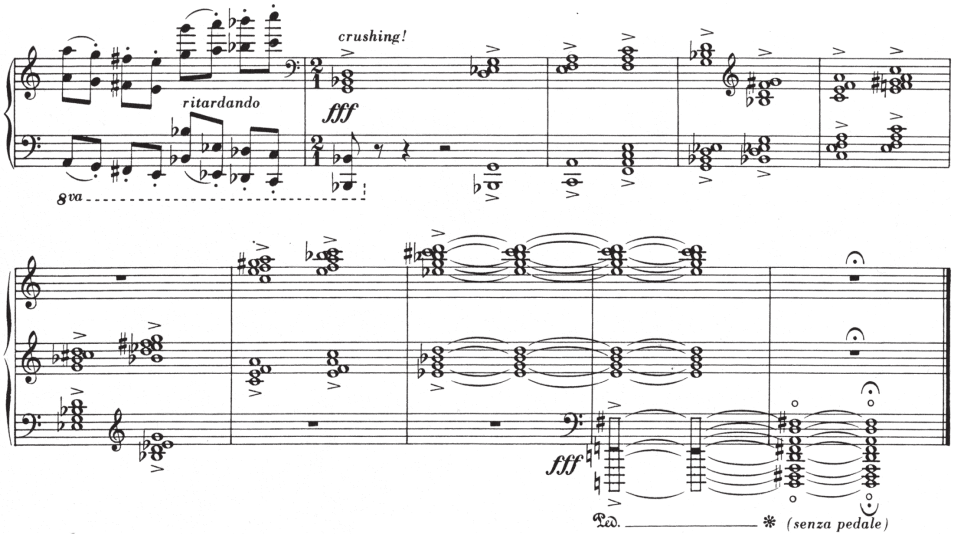
Like the second movement, the finale also begins in a relatively orderly fashion, only to lead later into disaster. The finale is essentially a fast fugue whose function is similar to the finale of Piano Concerto No. 1; it attempts to break free, to escape (rather than resolve) the ferocious conflicts that have dominated the preceding movements. In the Sonata, the flight is unsuccessful, because themes from the first movement begin to infiltrate the fugue texture alongside the theme as the movement progresses. First, in measures 45–48, the symmetrical theme from measures 95–102 of the first movement appears as a countersubject to the fugue theme. The situation comes to a head in measure 54, as the fugue theme appears in simultaneous symmetrical mirror inversion with itself in extreme registers of the piano. The themes proceed to alternating black and white clusters in measures 63–64, leaving the situation still unresolved (Example 6.36). The music then proceeds to a lengthy episode that fuses together the steady eighth-note pulse of the fugue theme (but not the actual fugue theme) and the main theme of the first movement. A brief reappearance of the fugue theme leads to the final culmination, where the D-G-A-C-D theme is repeated, constantly ascending. Once more the theme dissolves into a forte fortissimo cluster in the low register. But at the end, the pianist places their fingers on a D major chord and lifts the pedal; as a result, a D major chord emerges from the chaotic cluster (Example 6.37). This chord finally brings a resolution to the many battles that have occurred during the Sonata. Rautavaara himself interpreted the ending of the Sonata in this way:

> After a profuse battle there is a large cluster at the end—a formless chaos with no shape or form. But then the player sets their fingers, inaudibly, to a D major chord within that cluster, releases the pedal. What remains is the exact opposite of chaos, a clear and crystalline harmony.
>
> How often has life seemed to end in chaos, senseless ruin, shameful defeat. But then—perhaps gradually—a completely logical order, coherent purpose has emerged from within the chaos. (Rautavaara 2013.)[28]

28. "[M]onivaiheisen taistelun jälkeen on lopussa iso cluster – muodoton kaaos, josta ei erotu hahmoa, ei juurta eikä vartta. Mutta sitten soittaja ottaa äänettömästi sormiinsa tuon clusterin sisältä D-duuri-soinnun sävelet, päästää pedaalin irti ja soimaan jää kaaoksen varma vastakohta, kirkas ja selkeä harmonia. Miten usein onkaan elämän aikana näyttänyt siltä, että kaikki päättyy kaaokseen, järjettömään tuhoon, häpeälliseen tappioon. Mutta sitten onkin tuon kaaoksen sisästä, ehkä vähitellen, paljastunut täysin looginen järjestynyt, johdonmukainen tarkoitus."



Example 6.36. Piano Sonata No. 2, movement 3, mm. 60–65.



Example 6.37. Piano Sonata No. 2, movement 3, mm. 96–105.

7
The Road to Synthesis (1971–1979)

After his stylistic revolution at the turn of the 1970s with such pieces as *Anadyomene*, the Piano and Cello Concertos, and Sonata for Solo Cello, Rautavaara continued to experiment with "rhetorical" devices is his music. As mentioned in connection to *Anadyomene*, at the time of its composition Rautavaara considered *Anadyomene* to be a rhetorical work (i.e., not in his "true" style). But slowly his style evolved and his preferences shifted; he began to accept a neoromantic sound-world, with attendant triad-based harmonic preferences, as his true style. This began by embracing specifically those elements of harmony and texture that were far removed from modernist ideals. Seven months after the premiere of his Piano Concerto No. 1, and probably in response to its mixed reviews, he reflected on the Concerto in his diary.

> The piano concerto is pop art: all elements are there: excessive figuration – surrealism and a destructive element that is alien to it (clusters), which is born in the first movement but disappears—interrupts—and destroys the second movement (in the cadenza)—the escape from the angst comes about in the 'samba' of the third movement. Nowhere is it a question of parody! The Rachmaninov 'figuration' must be experienced as real, it must be experienced strongly. (Rautavaara 1969a, entry on 3 January 1971.)[1]

One day earlier, Rautavaara lamented the Concerto's poor reception and concluded that the piece was anachronistic.

> The Satanic drive of the piano concerto bears witness of a life that is insane and for this reason, transcendental. That its enormous platitudes, its juicy platitudes, are suffering and desperate, voll von Angst, demand, apparently, such powers of comprehension that are hors jour. We wait and congratulate ourself on the mixture of naivism and raffinement als noch wie dagewesen! (Ibid., entry on 2 January 1971.)[2]

1. "Pianokonsertto on poptaidetta: kaikki elementit ovat läsnä: ylifiguratiivisuus – surrealismi ja sille vieras destruktiivinen elementti (clusterit), joka syntyy I osassa mutta häviää – keskeyttää – ja tuhoaa II osan (kadenssissa) – pako ahdistuksesta tapahtuu III osan 'sambaan'. Parodisuudesta ei ole kysymys missään! Rahmaninov-'figuratiivisuus' on elettävä totena ja voimakkaasti."

2. "Pianokonserton saatanallinen drive todistaa elämästä joka on mielisairasta ja sen kautta tuonpuoleista. Että sen valtavat platityydit, mehukkaat platityydit, kärsivät ja ovat epätoivoisia, voll von Angst, vaatii ilmeisesti käsityskykyä hors jour. Me odotamme ja onnittelemme itseämme naivismin ja raffinementin sekoituksesta als noch wie dagewesen!

And by 1976, in a program note for a performance of *Anadyomene*, he seems to completely have changed his mind about the rhetorical nature of the composition:

> [The tonal elements] are in no way 'collages,' parodic, stylized etc., but precisely and no more than what they sound like. That it is necessary to even say this proves the unclear situation of the general artistic climate, and Anadyomene is an attempt to find my own personal clarity in it. (Rautavaara, quoted in Heiniö 1988, 61.)[3]

7.1 Monocerous Mysteries: True & False Unicorn

Rautavaara's cantata *True & False Unicorn* (1971) shows him using several rhetorical styles. Significantly, however, triad-based harmonies, which he initially in 1968 considered to be rhetorical in *Anadyomene*, are no longer viewed as such. To be sure, there are markedly rhetorical devices in the cantata, but their referents have shifted since 1968; now, it is the *modernist* elements which are viewed as if from a distance. Rautavaara's own true voice lies now in tertian harmonies and diatonic melodies, whereas quasi-serial techniques, Sprechgesang, citations, and style allusions indicate the voices of others.

In the summer of 1970, before composing *True & False Unicorn*, Rautavaara himself professed to his diary that his true voice was in melodic music; the implication is that he is referring to diatonic, quasi-tonal melodies:

> And now even, whatever I try, I just <u>cannot</u> compose unmelodic music, however well I know (and I do) how it goes. But it is no fun. And I have no time with stupidities. The life [sic] is short. (Rautavaara 1969a, entry on 13 June 1970.)

The musical diversity of *True & False Unicorn* was suggested to Rautavaara by the wide-ranging allusions of Broughton's text.

> His characteristic use of myths, the application of mythology and verbal brilliance, a way of associating that resembles a sort of musical technique, melodiousness and danceability on the other hand; these attributes that are typical of Broughton, are at their most magnificent in the extensive poetry suite *True & False Unicorn*. (Rautavaara 1973.)[4]

3. "Ne [tonaaliset ainekset] eivät millään tavoin ole 'collageja', parodisia, tyylitteleviä tms., vaan täsmälleen ja vain sitä, miltä ne kuullostavatkin [sic]. Että tämän sanominen on tarpeellista, osoittaa sen taiteellisen yleistilanteen epäselvyyttä, josta Anadyomene on ponnistus päästä omakohtaiseen selkeyteen."

4. "Hänelle ominainen myytinkäyttö, mytologian viljely ja kielellinen loisteliaisuus,

What attracted Rautavaara to Broughton's work was its central mythical subject. The Unicorn of Broughton's text is a metaphor for an artist (ibid.); the central theme of the piece is the search for the Unicorn's identity. Even the Unicorn himself is not quite certain of who he is; in addition to his self-exploration, he is seen through the eyes of various other personages in the course of the piece.

The subtitle of Broughton's collection, "A Tapestry of Voices," thus carries rich possibilities for interpretation. The multitude of voices in the text become a complex polyphonic whole. It is further amplified by Rautavaara's music, in which the different voices are given distinct identities through a polyphony of musical styles.

The "tapestry" of the subtitle also alludes to the "Unicorn tapestries," a collection of gobelins that originate from medieval times and are now in the collection of the Metropolitan Museum of Art in New York. The seven tapestries depict the Unicorn being hunted and captured with the help of a virgin (according to legend, only a virgin was able to capture a unicorn). In Broughton's "Tapestry of Voices," the persons and animals of the tapestry "in turn are endowed with the gift of speech or song, and they express their opinion on the Unicorn, that archetype of an artist," in the words of Rautavaara (Rautavaara 1973).[5]

In the beginning and the end, the main focus is on the Unicorn and his self-exploration. The music is then solemn, earnest, and fantastical. The artist-Unicorn is seen as a creator of worlds unknown. By contrast, in the middle sections of the composition, as the various other personages offer their own takes on the Unicorn—and are ultimately unable to grasp the essence of the artist—the music becomes ironic and parodic and alludes frequently to lighter musical styles.[6]

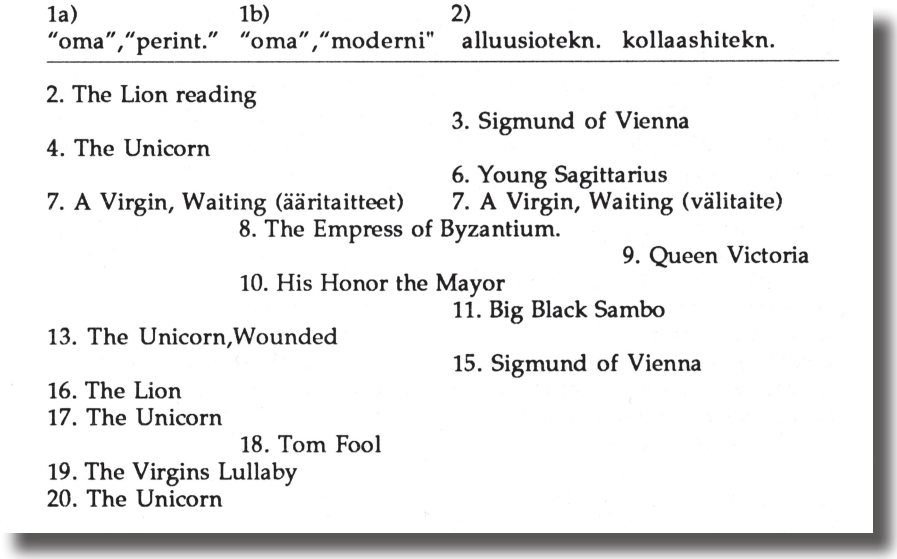
Mikko Heiniö (1988, 63) has analyzed Rautavaara's use of different voices in the 20 movements of *True & False Unicorn* using two categories, each of which subdivides into a total of four subcategories:[7] 1a) "own", "traditional," 1b) "own", "mod-

jonkinlaista musiikillista tekniikkaa muistuttava assosioimistapa, laulunomaisuus ja tanssivuus toisaalta, nämä Broughtonille tyypilliset ominaisuudet ovat upeimmillaan laajassa runosarjassa *True & False Unicorn*."

5. "… vuoron perään saavat puheen- ja laulunlahjan ja ilmaisevat kukin oman näkemyksensä yksisarvisesta, tuosta taiteilijan perustyypistä."

6. Rautavaara's opera *Apollon contra Marsyas*, written earlier, has a similar formal plan. The plot of the opera deals with the contest between different musical styles, and the music of Apollon is in the sphere of art whereas that of Marsyas is considered light entertainment. In the general formal plan of the opera, the "earnest" music of Apollon flanks, in the beginning and end, the lighter styles of Marsyas, in the middle. (Tiikkaja 2014, 308–312.)

7. Heiniö's typology is slightly inconsistent in subdividing category 1 into subcategories 1a and 1b, but not assigning subcategories to the two classes in category 2. The typology also omits the interludes (numbers 1, 5, 12, and 14) that divide *True & False Unicorn* into four movements; originally consisting of tape music, they were reworked in the 1990s and 2000s into orchestral interludes.



Example 7.1. Mikko Heiniö's typology of the movements of Rautavaara's True & False Unicorn (Heiniö 1988: 63).

ern", as well as 2) allusion techniques and collage techniques (Example 7.1).

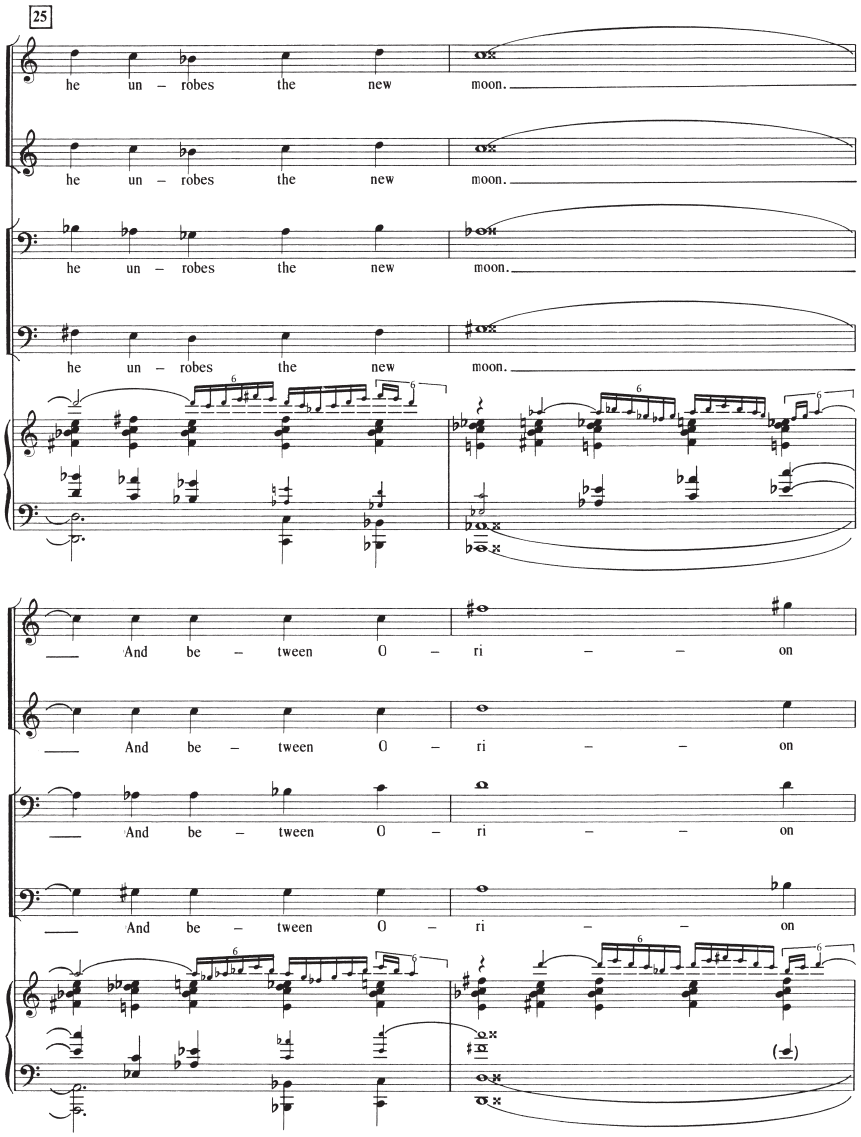
I disagree with the division of Category 1 into two subcategories, since *The Empress of Byzantium*, *His Honor the Mayor,* and *Tom Fool*—all categorized by Heiniö as Rautavaara's own, modern voice—clearly represent the voices of "others" in their relationship to the Unicorn and are therefore on the outside. The Lion and the Virgin, on the other hand, are in the inner circle of the Unicorn; the Lion is the Unicorn's partner and therefore closest to him, the Virgin slightly less so, being the one personage who is capable of capturing the Unicorn, according to legend. This is well reflected by Heiniö's typology, which places the outer sections of *A Virgin, Waiting* to Rautavaara's own, traditional music, and the inner section to allusion technique. Therefore, only the music of the Unicorn, the Lion, and to some extent, the Virgin represent Rautavaara's own, true voice as a composer in this piece. The Modernist devices of *The Empress of Byzantium*, *His Honor the Mayor,* and *Tom Fool* remain on the outside, as personages to whom the artist-Unicorn is forced to react. All of the characters on the outside seem to want something from the Unicorn, typically to exploit him to their own ends (such as the Empress of Byzantium or Queen Victoria), or they are openly hostile towards him (such as His Honor the Mayor). But ultimately the Unicorn is not interested in them; he is on his own journey of self-discovery, aided in this quest by his inner circle. It is easy to imagine Rautavaara identifying strongly with Broughton's vision of the artist-Unicorn; shortly before composing *True & False Unicorn*, Rautavaara reflected on his own art in his diary as follows:

> And is it not so that what is valuable is only that which originates from me, Ta Tou Theou, solely from me, from my outlook on life, EGO SUM, ERGO SUM. My task is not to assess the situation objectively and to generate supply for the demand or to confer a qualitative price to a norm of any kind: my task is not to create a good work of art. My task is to create my work of art. My task is to create me, otherwise I am lost and the task is lost. Creating works of art is retail business, and my creation is my task, and it does not belong to anyone what becomes of it or not. (Rautavaara 1969a, entry on 15 August 1970.)[8]

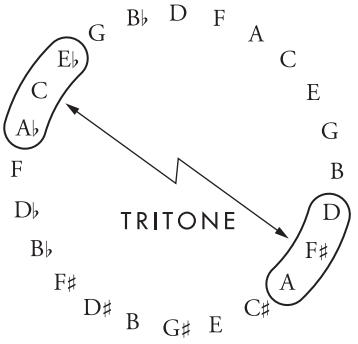
After the tape music/orchestral introduction, the first choral movement is *The Lion, Reading*, wherein the Unicorn's partner, the Lion, reads out various Unicorn myths, in an attempt to pinpoint the exact identity of the Unicorn. The music incorporates Messiaen's second mode and symmetrical motions and culminates in what Rautavaara described to Broughton as "Cosmic music" (Rautavaara, n.d. [1972–1973]); it creates the musical universe of this piece of music, a reference point against which all subsequent events are gauged. The culmination consists of back-and-forth motions of the bass line in whole tones, outlining constant and recurring stepwise tritone motions (Example 7.2a). The main elements of the texture are the bass lines and the triads in the choir that the bass supports. The two triads, D major and A♭ major, have their roots a tritone apart, and because of their lack of centricity (neither is structurally more stable than the other), they create an illusion of vast expanses of space. This impression is enhanced by the colorful orchestration that features whole-tone arabesques, reflecting the whole-tone motions in the bass. On the Harmonic Circle, these two main triads are found neatly on opposite sides because of their tritone-relation and fits well with the intuition that the two triads create an expansive, non-centric harmonic polarity (Example 7.2b). The tritone pole creates a harmonic space analogous to the one created by the four structural triads in the Cello Concerto No. 1; as is discussed in Chapter 6.3.1, the four structural triads form two tritone poles and divide the tonal space symmetrically. Here, by contrast, there is only one tritone pole, the starkness of which tends to emphasize its harmonic ambiguousness.

The expansive nature of this "Cosmic music" is emphasized by the rhetorical movements that follow. Right after *The Lion, Reading* comes *Sigmund of Vienna*, a movement with chamber music-like orchestration and a sprechgesang soloist who seems to psychoanalyse the Unicorn. The text alludes, of course, to Sigmund Freud,

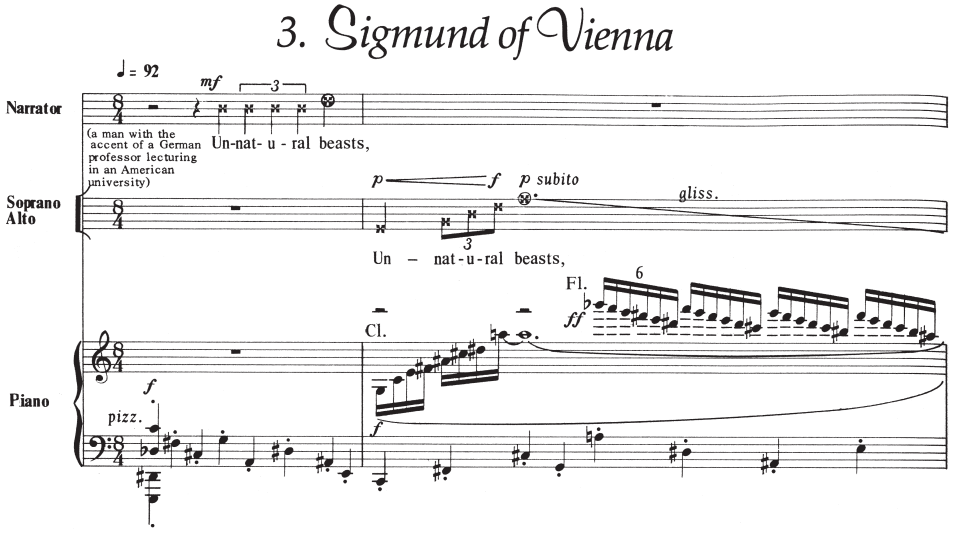
8. "Ja eikö arvokasta voi olla vain se mikä on minusta, Ta Tou Theou, kokonaan minusta, minun nimenomaista elämäntunnetta, EGO SUM, ERGO SUM. Tehtävänä ei ole arvioida tilannetta objektiivisesti ja toimittaa kysynnälle tarjontaa ja suorittaa kvalitatiivista hintaa minkäänlaiselle normille: tehtävänä ei ole tehdä hyvää taideteosta. Tehtävänä on tehdä minun taideteokseni. Tehtävänä on tehdä minut tai minä olen hukassa ja tehtävä on hukassa. Taideteosten tekeminen on saippuakauppaa ja minun tekemiseni on minun tehtäväni eikä se kuulu kellekään muulle mitä siitä tulee tai on tulematta."



Example 7.2a. True & False Unicorn: The Lion, Reading, mm. 25–28.



Example 7.2b. D major and A♭ major triads on the Harmonic Circle.



Example 7.3. True & False Unicorn: Sigmund of Vienna, mm. 1–2.

but Rautavaara's music refers to *Arnold* of Vienna; the textures seem to refer to Schoenberg's *Pierrot Lunaire* and the constant quarter-note obligato in the bassoon keeps cycling through an eight-note series (Example 7.3).

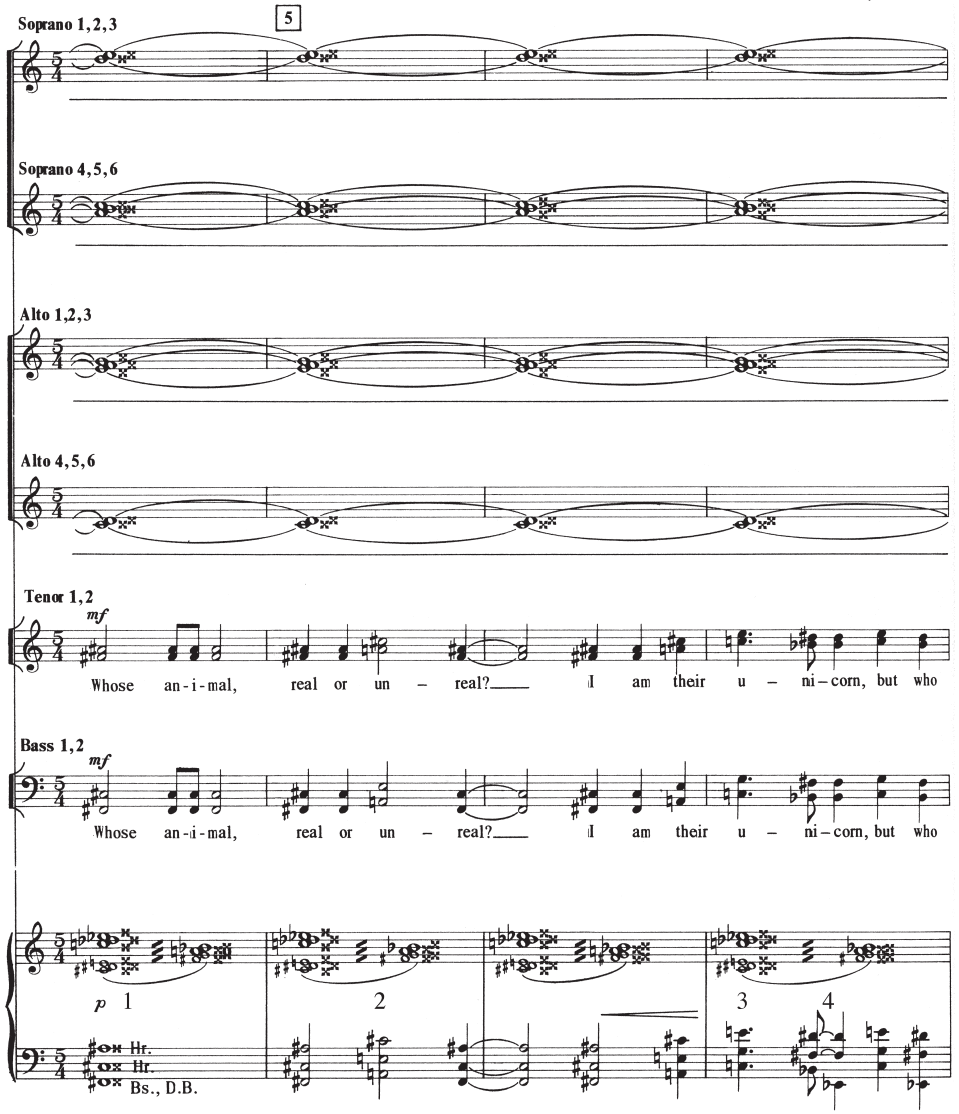
In the course of the piece, the contrast between Rautavaara's "true" music and rhetorical utterances become obvious. After *Sigmund of Vienna*, a rhetorical movement, comes *The Unicorn* which certainly is within the domain of Rautavaara's own voice. Rhetorical movements are concentrated in the middle of the piece, especially in the second part, *Horn and Hounds*, which begins with the interlude *Entering the Wilderness the Unicorn is Beset by Voices*. The title of this interlude is telling; it alludes to the Unicorn being hunted, and indeed he is beset by the voices of a Young Sagittarius, a Virgin, The Empress of Byzantium, Queen Victoria, His Honor the Mayor, and Big Black Sambo, all of them looking at the Unicorn from the outside and trying to use him to their own advantage.

The third part, *Snare and Delusion*, only contains one movement in addition to the tape music/orchestra interlude. Here, the Unicorn is wounded, apparently in a desert per the title of the interlude (*In the Heart of the Desert the Silence is Piercing*). The music is not rhetorical, but firmly in the Unicorn's domain. At its core, the music is octatonic; female voices of the choir hum a stable octatonic chord until measure 23, accompanied by octatonic tremolo fields in the orchestra. When the male voices join in with thematic material, they too seem to be singing octatonic motives, and the triadic themes seem to be constructed of the same four structural chords that are central in Cello Concerto No. 1. But there is one major difference. Here, one of the four tri-

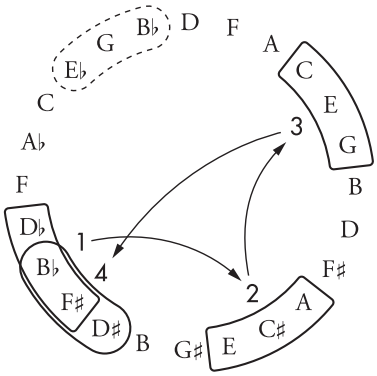
ads is a minor triad, imbuing the tonality with a surprisingly large degree of volatility. To be sure, the system of four major triads has a great degree of harmonic tension, but it seems always symmetrical and systematic; when one of those triads is a minor one, it tends to push the whole system off balance. This is a skilled way of depicting the self-doubt and uncertainty of the wounded artist-Unicorn in this movement. Example 7.4a shows the entrance of the male voices; in these measures, there are F♯ major, A major, and C major chords, but in the place of an E♭ major chord there is an E♭ minor chord (see Example 7.4b). The same passage can be viewed with the aid of an RP chain (Example 7.4c). In that space, too, the octatonic poles of F♯ major and C major are clearly visible on the opposite sides of the circle, whereas the octatonic pole of A major is not heard but is deflected to a minor chord (E♭ minor, chord labeled 4 in the example). Halfway through measure 8, the system shifts; E♭ minor is replaced by a major chord, but the C major turns into a minor chord (Examples 7.4d–e). The stable major chords are indicated in Examples 7.4b and 7.4d with solid, rectangular lines, the expected fourth major chord by a dotted line, and the unexpected minor chord by rounded lines. The tones of the expected major chord do sound constantly in the background, supplied by the female voices and the orchestra.

In the next section of the movement (mm. 24–40), the female voices begin to sing octatonic clusters, all the while accompanied by orchestral tremolos. The neutrality of the texture depicts the self-doubt of the Unicorn. Even as the music emboldens in the final section (mm. 41–62) to fanfare-like motifs when the Unicorn gains bravado, the text still reveals hesitance, and minor variants of the structural triads continue to appear in the harmony.

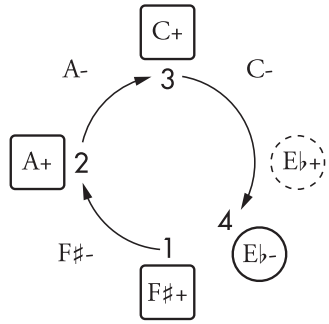
At the end of *True & False Unicorn*, the protagonist finally finds certainty. The fourth and final part of the piece is titled *"Mon seul desir"* and begins with the instrumental interlude *The Unicorn Reaches a Temple in a Clearing*, referring to the medieval tapestry where a Virgin has captured a Unicorn and the two are in a temple, in a clearing. The final part can be heard as a recapitulation of the opening, because Sigmund of Vienna is here again, as is the Virgin who sings a lullaby to the Unicorn. The Lion, too, assures the Unicorn: "You shall outwit and outlive the hounds." And indeed, in the end, the Unicorn comes to his conclusion: "This is my only this is my fate, this is my godhead grown from doubt. I am my unicorn and he is I. I am myself, my own true and false. I am myself my real unreal." All this is sung to the "Cosmic music," reappearing finally here, with its tritone pole once again depicting wide vistas of the universe.



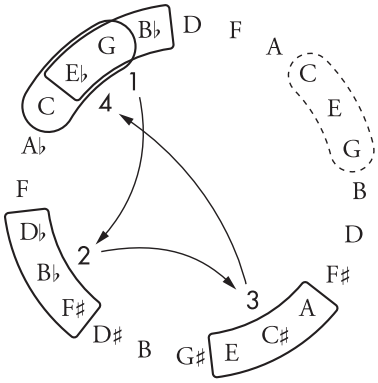
Example 7.4a. True & False Unicorn: The Unicorn, Wounded, mm. 4–7.



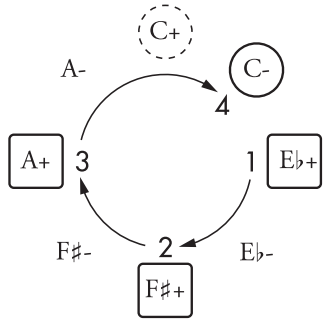
Example 7.4b. The harmonies of mm. 4–8 on the Harmonic Circle.



Example 7.4c. The same chords on an RP chain.



Example 7.4d. The harmonies of mm. 8–12 on the Harmonic Circle.



Example 7.4e. The same chords on an RP chain.

7.2 The Big Bang Principle in Three Choral Works

In 1978 and 1979, Rautavaara wrote three choral compositions that are related through form and texture. *Canticum Mariae virginis (1978), Magnificat (1979),* and *Nirvana Dharma* (1979) show three alternative ways of writing out what is essentially a single compositional idea. Rautavaara refers to the formal principle involved as "Big Bang form"; according to this notion, a momentous occurrence in the middle of a composition will cause all that is heard afterwards to be judged in relation to the big event.

> From this point onwards, events proceed from a retrospective stance, referring back to this high point and receiving their driving force from it; not as an epilogue, however, but still of their own accord and on their own terms. After all, we would hardly refer to our own world as a mere epilogue to the Big Bang. (Rautavaara 1995, 5).

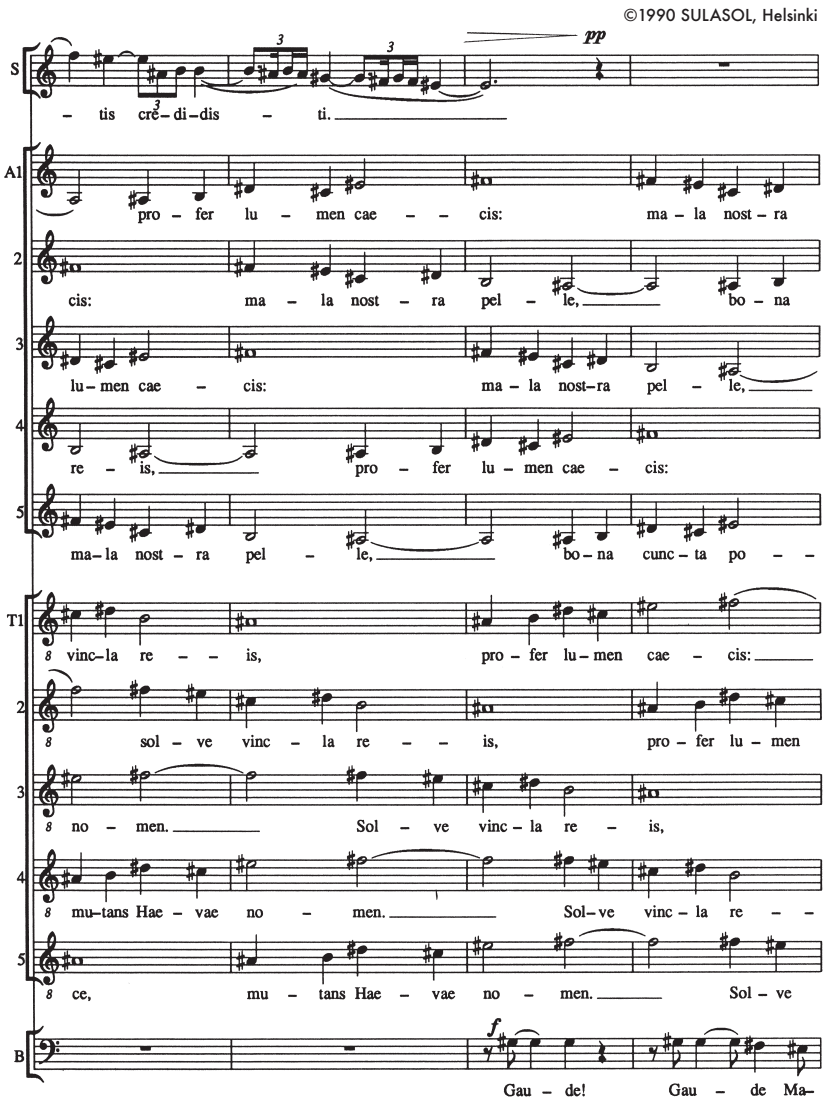
In each of the three compositions the Big Bang is treated slightly differently. *Canticum* is an ascetic religious piece while *Nirvana Dharma* is more wide-ranging end exotic. The first part of the *Magnificat* shares the same formal principle; its application is the most archaistic of the three.

7.2.1 Canticum Mariae virginis

In *Canticum Mariae virginis,* the first of these three pieces to be finished, the idea is still not fully developed. Here, there are two Big Bangs. The first one does not yet achieve equilibrium, because dissonant elements remain in the texture until the last section, beginning after the second Big Bang. Therefore, the first Big Bang does not expend all of the harmonic energy embedded in the music.

Set to Catholic texts in Latin—*Ave Maris stella* and the canticle of the Virgin Mary—*Canticum Mariae virginis* adheres to rigorous symmetrical principles. The sound is resonant with spacious triads and archaistic passages of parallel fourths.

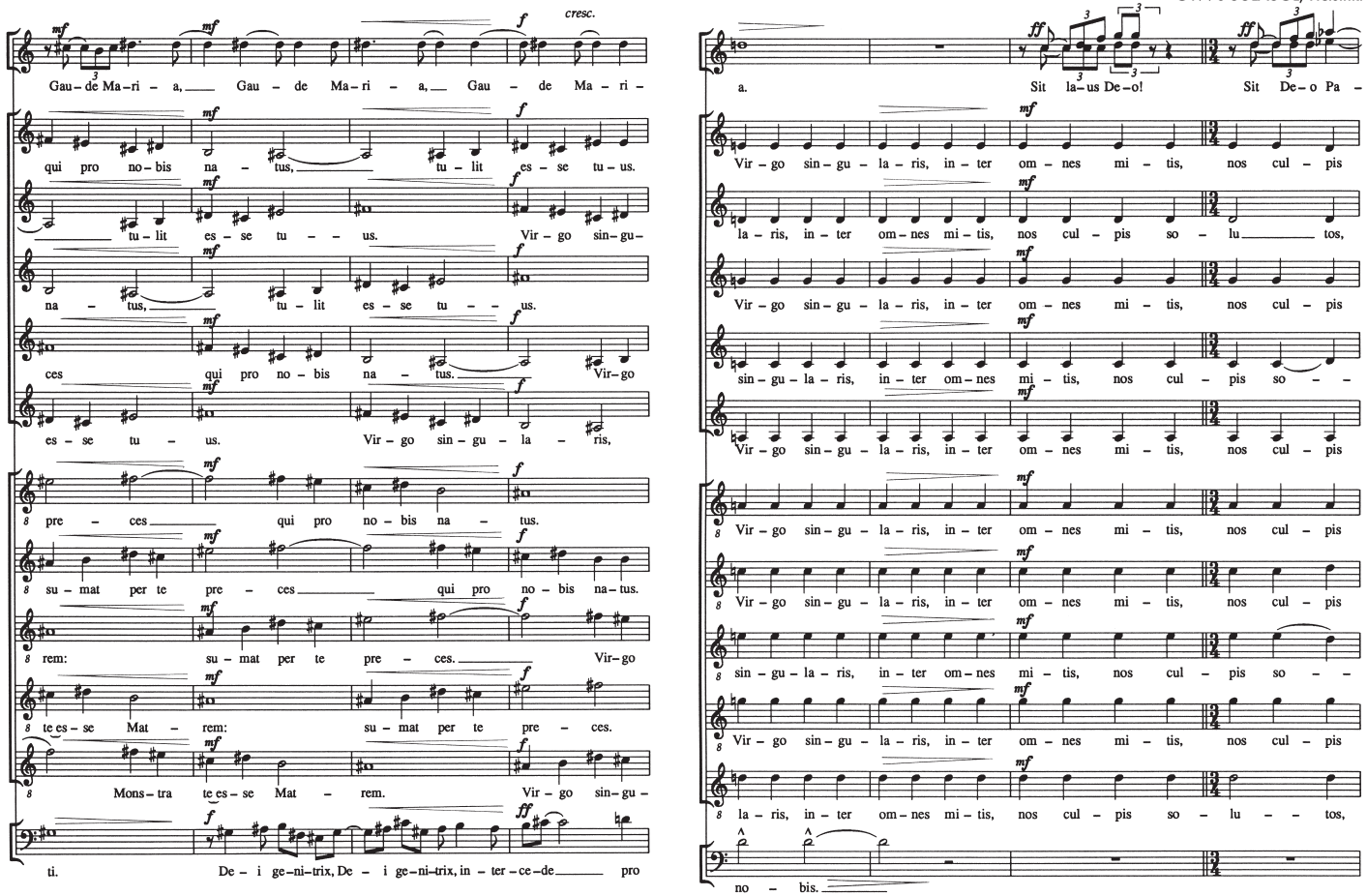
The first part of *Canticum* is built on a dream-like web of sound. The altos and tenors provide a static harmony in ten-part divisi; the harmony remains the same throughout the section, but the parts are in constant motion, thus resulting in kaleidoscopic timbres. The harmony is created by a ten-part canon, as all the parts keep repeating the same motive. The motive is retrograde-symmetrical and the harmony it creates in the canon is also symmetrical. Symmetry is also exhibited by the soprano and bass melodies that appear over and under this harmonic background; the melody first appears in the sopranos, to be subsequently repeated, inverted, in the basses (Example 7.5; the example shows the entrance of the basses with a melody that is an



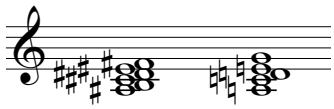
Example 7.5. Canticum Mariae virginis, mm. 32–35.

inversion of the soprano line which has begun earlier in measure 17). Rautavaara was obviously quite satisfied with the textural symmetry in this passage, considering that a similar texture appears immediately after the *Canticum* in the *Magnificat* and 5 years later in *Katedralen*.

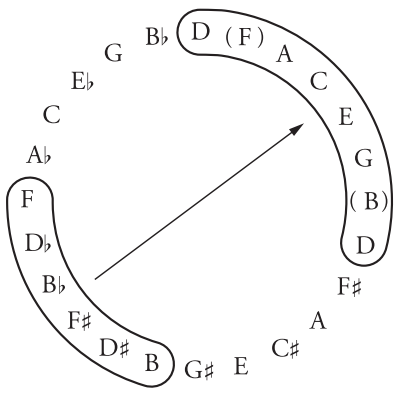
The first section (measures 1–48) culminates in a Big Bang, a shift from a dense chromatic harmony to a more spacious pentatonic one (Example 7.6a; the section that begins in measure 49 lasts until measure 64). Both of the harmonies around the Big Bang are symmetrical around D (Example 7.6b). The harmony created by the ten-part canon in the opening section is a six-note harmony on the black side of the



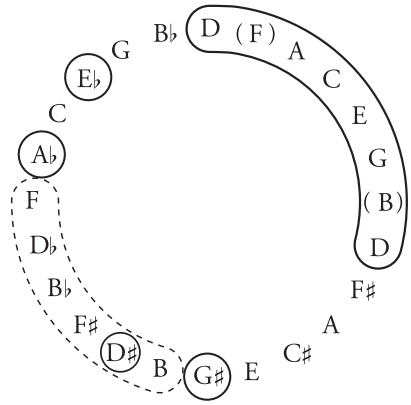
Example 7.6a. Canticum Mariae virginis, mm. 45–52.



Example 7.6b. The harmonies around the "Big Bang".



Example 7.6c. The harmonies of ex. 7.6b on the Harmonic Circle.

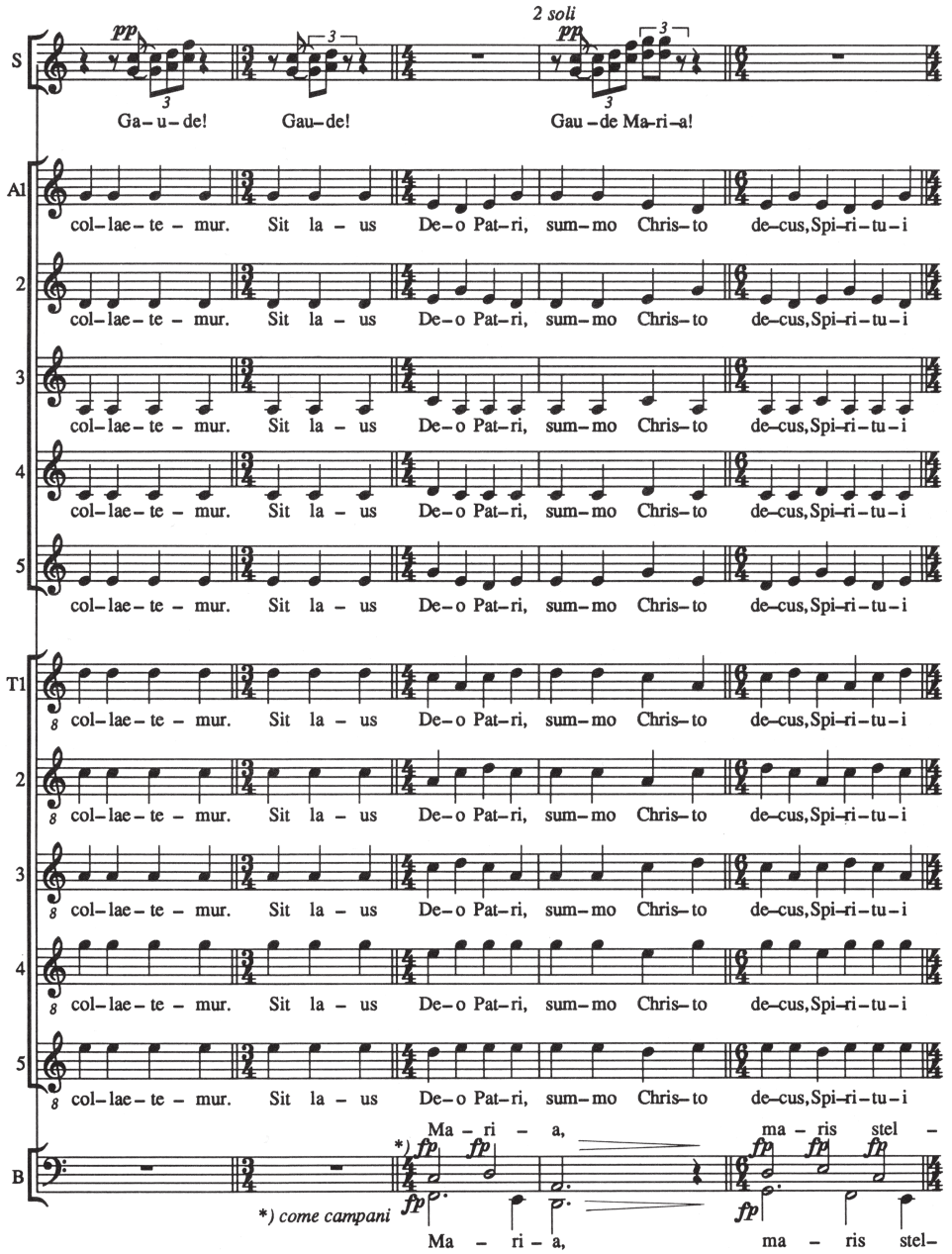


Example 7.6d. White harmony with added chromatic tones (see m. 52 of ex. 7.6a).

Harmonic Circle, and the Big Bang shifts the harmony to the white side (Example 7.6c). However, the frequent chromatic inflections to E♭ and A♭ in the melody retain some harmonic tension in this passage (see m. 52 in Example 7.6a). Those two pitch classes draw the harmony back towards the black side of the Harmonic Circle, where the harmony will indeed soon return (Example 7.6d).

A bridge passage (measures 65–76) between the two halves of the composition exhibits textural symmetry by inverting the roles of the female and male voices midway through the passage (the axis of symmetry lies in measure 71), with the voices singing strict mirror inversions of motives on each side of the axis. The six-note black web with the ten-part canon then reappears in an abridged form (measures 77–90), only to be replaced again by the white pentatonic harmony that concludes the piece (measures 91–102). In this final passage, there are no more chromatic inflections as there were in the previous pentatonic section, but the melodic motives in the sopranos all conform to the white pentatonic harmony (Example 7.7). The basses' two-part declamations ("come campani") near the end of *Canticum* also occur in *Nirvana Dharma* (with the performance instruction translated to English: "like bells").

The overall harmonic motion in *Canticum Mariae virginis* occurs from black harmonies to white ones. The first shift from the one to the other is not yet strong



Example 7.7. Canticum Mariae virginis, mm. 93–97.

enough, because the E♭-A♭ dyad pulls the music back towards the black side of the Harmonic Circle, but after the second shift, or Big Bang, the harmonies remain exclusively on white side through the end of the piece.

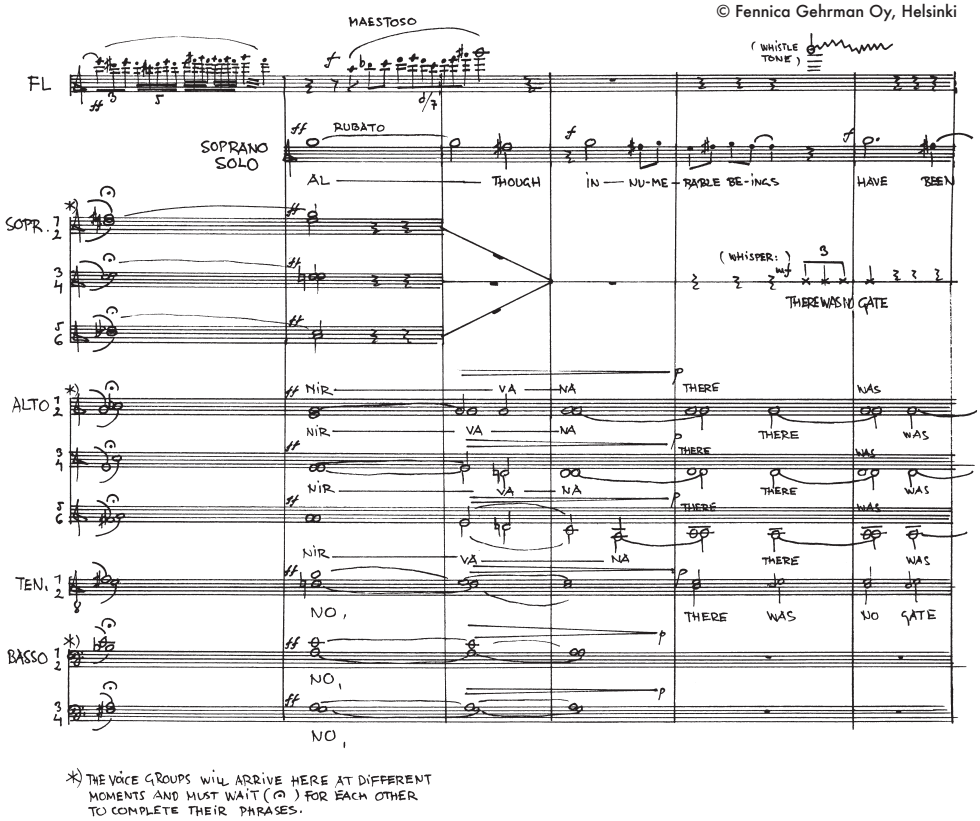
7.2.2 Nirvana Dharma

Nirvana Dharma contains a similar harmonic strategy as *Canticum Mariae virginis*, although there is only one Big Bang in the piece. This lends the event a more singular character, as opposed to the dual Big Bangs that occur in *Canticum Mariae virginis*. *Nirvana Dharma* was commissioned by the Nordic Music Committee for the Swedish Luleå Chamber Choir and is scored for mixed chorus, solo soprano, and flute. The primus motor behind the commission was the flautist Gunilla von Bahr, who had earlier commissioned Rautavaara's flute concerto and sonata for flutes and guitar.

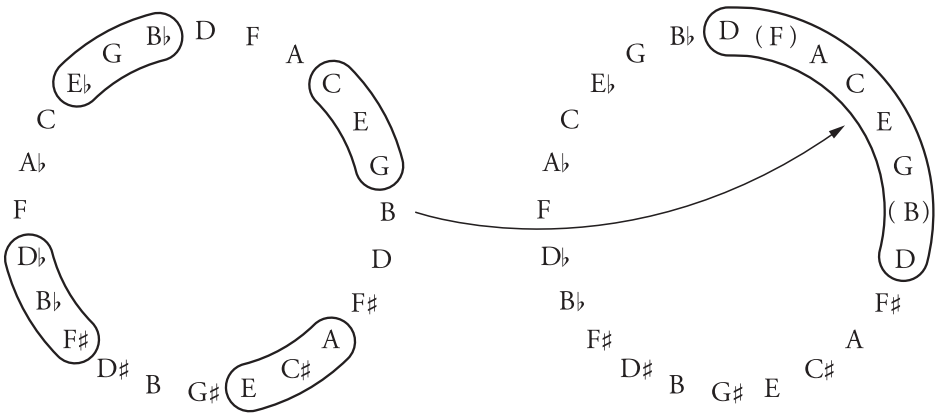
Nirvana Dharma begins with a flute solo. The flute in the piece can, according to Rautavaara, be compared to the Hindu god Krishna, "who creates worlds as he dances—or summons up one sound after another" (Rautavaara 1993b). The flute is soon joined by the altos in six-part divisi. The altos initiate an octatonic field. Throughout the first half (measures 1–35)[9] of the work, Rautavaara uses the octatonic scale to create dense fields of sound.

The second half of the work (measures 36–86) is launched by the culmination of the first, where the octatonic clusters suddenly resolve into pentatonic clusters. The shift to the pentatonic sphere releases the tension built up by the octatonic clusters and the bustle of the cluster fields ceases at the same time (see Example 7.8a). The music is now dominated by a dialogue between soprano soloist and flute. The culmination takes place on a borderline of the text; for this piece, Rautavaara combined two consecutive poems from R. D. Laing's poetry collection *Knots* (Laing 1970) and this culmination marks a transition from the first poem to the second one (in the soprano solo, however, the first poem begins anew at this juncture). At this point, the tension accumulated by the octatonic melody strands of the opening section reaches its peak and gives way to static, timeless music in the pentatonic mode (Example 7.8b). As Laing's poems deal with a gate—a gate to Nirvana, perhaps—this moment can well be interpreted as passing through that gate—this seems to be Rautavaara's interpretation, judging from a drawing of his (Example 7.8c) that depicts the overall structure of the piece. In terms of harmony, the structure proceeds from a relatively tense-sounding octatonic harmony (marked by Rautavaara in Example 7.8c as "Dy-

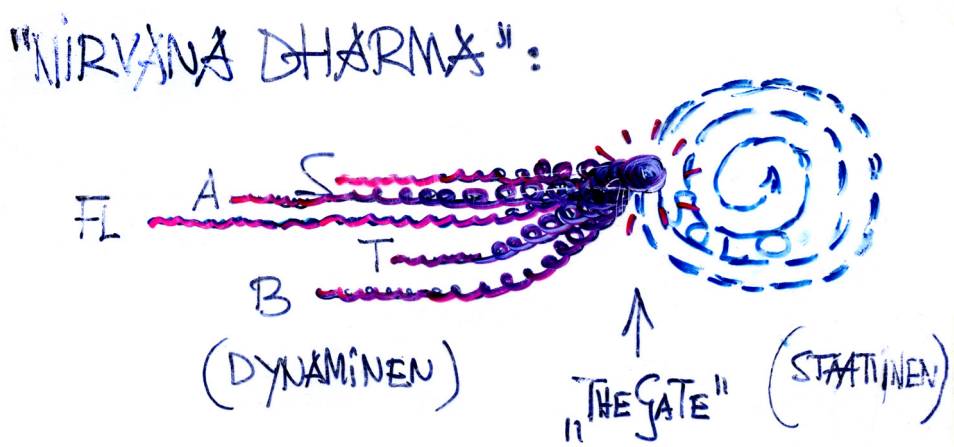
9. The measure numbers are taken from the flute part, as the vocal parts frequently employ aleatoric counterpoint in their repetitions.



Example 7.8a. Nirvana Dharma, mm. 35–40.



Example 7.8b. The harmonies around the “Big Bang” in Nirvana Dharma.



Example 7.8c. Rautavaara's structural analysis of Nirvana Dharma.

naminen,"[10] or Dynamic) through a cataclysmic Big Bang (marked as "The Gate") to a serene pentatonic harmony (marked as "Staattinen," or Static).

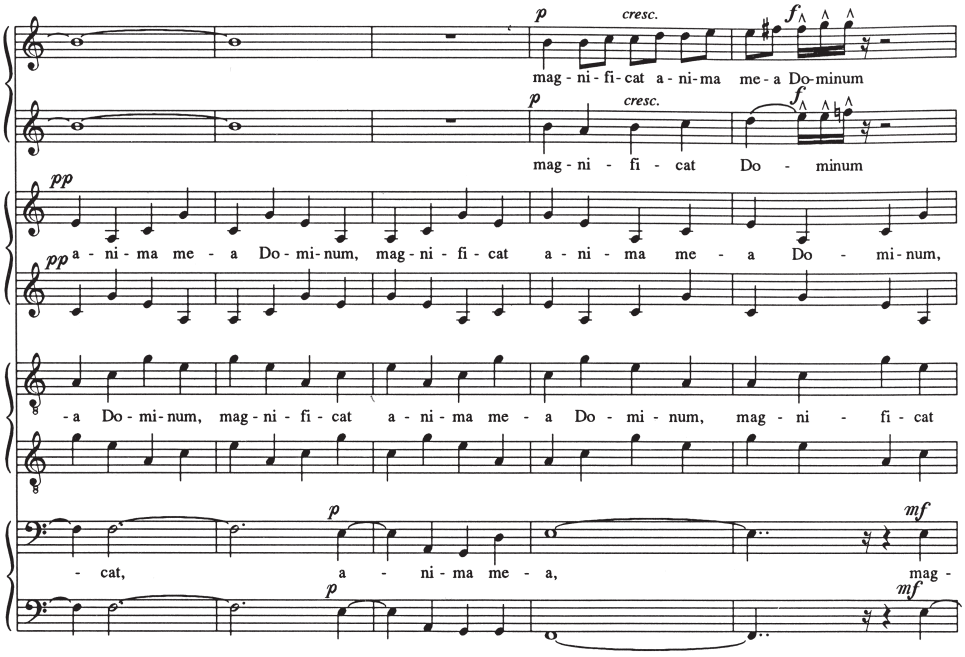
7.2.3 Magnificat

The third of Rautavaara's Big Bang compositions of 1978–1979 is *Magnificat,* a five-movement piece of serene beauty and quiet contemplation. It is a setting of the Catholic canticle of the Virgin Mary. The Latin text seems to have inspired Rautavaara to write an archaistic piece harmonized, in many places, with parallel fourths and fifths. The duration of the five-movement composition is approximately 16 minutes.

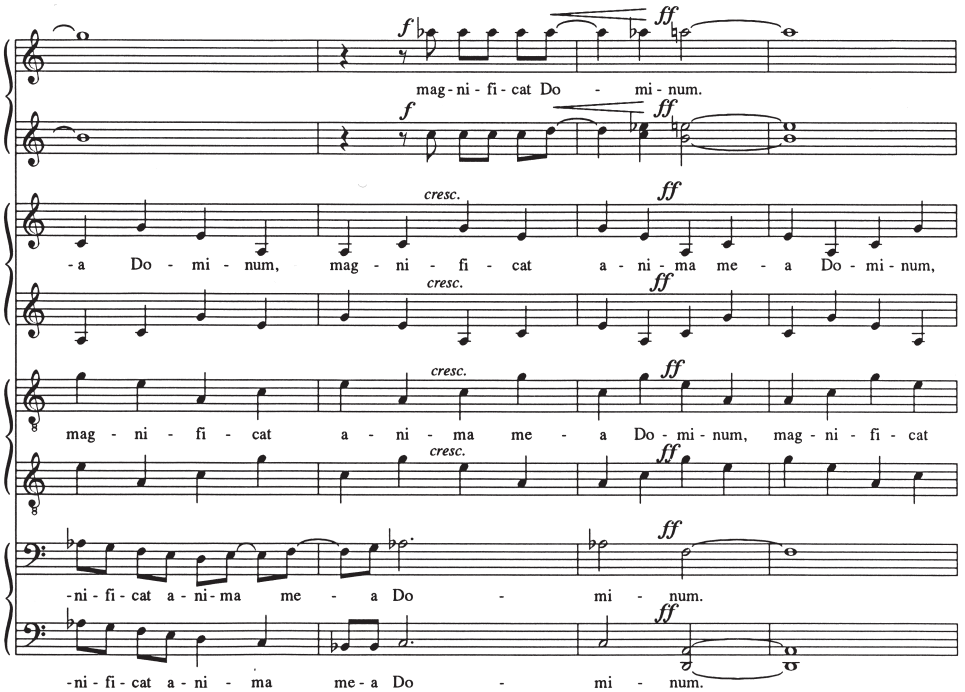
Of particular interest in terms of harmony and the Harmonic Circle are the first two movements. The first movement of the piece is simply titled "Magnificat." It is divided into two sections in terms of harmonic areas. In the first of these, in measures 1–34, the harmonic backbone is formed by the altos and tenors (divisi) with their constant and overlapping arpeggiations of an A minor seventh chord. The texture contains four parts, and all four notes of the chord are always present. The overlapping arpeggiations in the four parts serve to create constantly changing timbres while keeping the harmony static.

Above and below the A minor seventh chord, the sopranos and basses provide chromatic foreground events, while the static chords in the altos and tenors are more in the structural background. The foreground events start with relatively little chromaticism, but as the first section proceeds, the texture of the sopranos and basses becomes increasingly chromatic. Example 7.9a shows the first utterances of the basses

10. Sic; the correct Finnish spelling of the word would be "Dynaaminen."



Example 7.9a. Magnificat, mm. 7–11.



Example 7.9b. Magnificat, mm. 20–23.

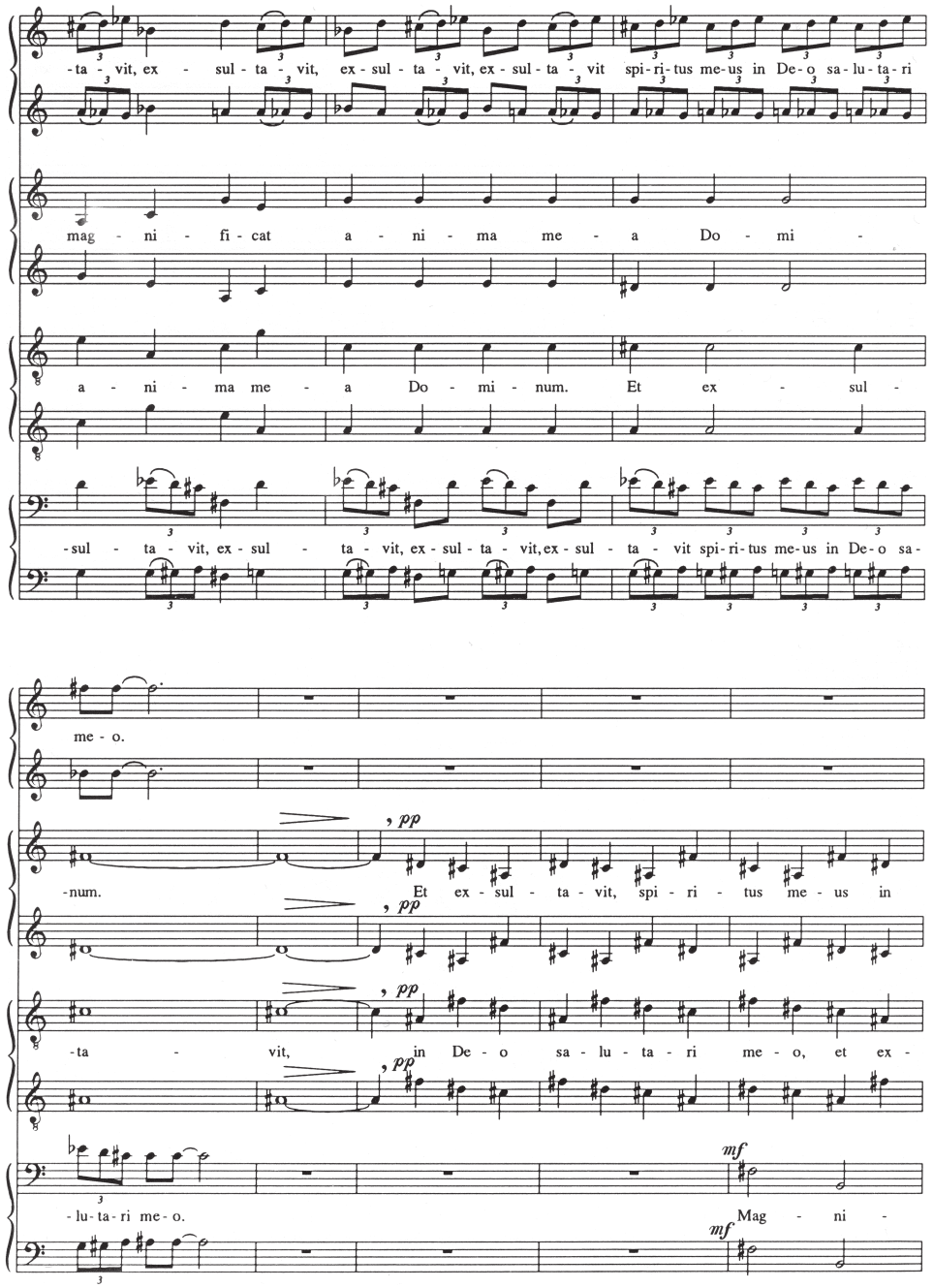
and sopranos, where the only pitch class that does not belong to the "white" diatonic collection is the F♯ in the sopranos in measure 11. Example 7.9b, from roughly the middle of the section, shows more chromaticism; A♭ in the basses and sopranos, B♭ in the basses, and E♭ in the sopranos. Finally, at the end of the section, chromaticism reaches its peak (Example 7.10). The sopranos and basses sing rapid passages that contain the notes C♯, E♭, F♯, A♭, and B♭. The chromatic material in the sopranos and basses seems to saturate the texture, and to cause a change in the thus far constant A minor seventh chord of the altos and tenors.

In measures 34–36, the A minor seventh chord transforms, through an intermediate A-C♯-D♯-G tetrachord, into an inverted D♯ minor seventh chord. This chord sounds through the remainder of the movement, coming to a rest in the final measure 57, with F♯ and C♯ doubled in the divisi basses.

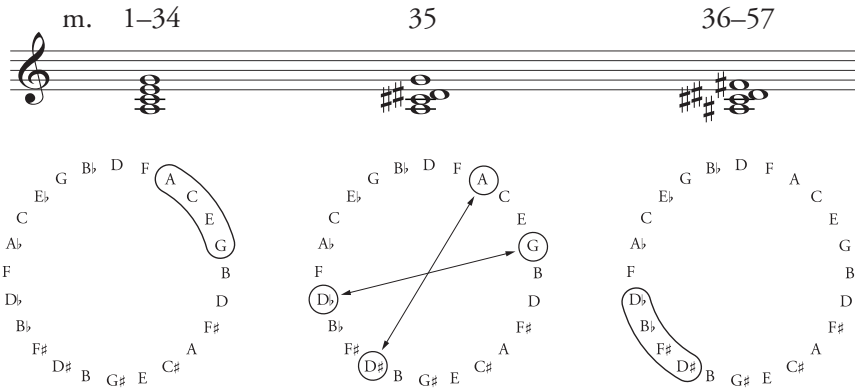
Tracking the harmonic structure of the movement on the Harmonic Circle (Example 7.11a), we can see that the initial A minor seventh chord (A-C-E-G) lies on the northeastern quadrant of the Circle, (i.e., in the white harmonic area). Since this chord prevails for 34 measures at a slow tempo (quarter note=60), it becomes a strong tonal center. Against this, the chromatic movement in the outer voices appears less structural. When the harmony finally changes, in measure 35, the change is a major event. But in retrospect, the intermediate tetrachord, lasting only one measure, shrinks in importance. The two major chords of the movement are the initial A minor seventh and the eventual D♯ minor seventh chords. These chords form octatonic poles. The movement to the latter chord is easily perceived as a modulation; the D♯ minor seventh chord (D♯-F♯-A♯-C♯) appears on the opposite side of the Circle from the initial A minor seventh chord.

The intermediate chord of measure 35 can be interpreted as a hybrid of the two main chords. Rautavaara has distributed the tones of the A and D♯ minor chords such that they are grouped symmetrically around D; thus, the A minor seventh is in root position and the D♯ minor seventh in its second inversion. The intermediate chord, too, is symmetrical around D; it is formed when the two outer tones (A and G) remain constant while the two inner voices move stepwise to the tones of the new chord (C♯ and D♯). In measure 36 the outer voices move, also stepwise, to A♯ and F♯, thus completing the inverted D♯ minor seventh chord.

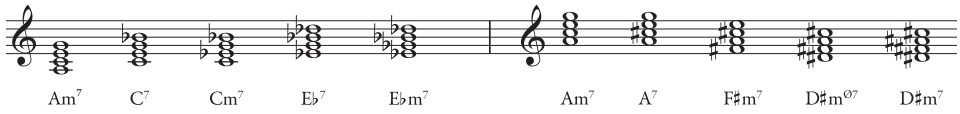
Example 7.11a shows the background harmonic plan of the movement and also illustrates the corresponding chords on the circle. It is evident that even in the intermediate chord of measure 35 there is tritonal tension; the A is tritonally related to the D♯, while the G is tritonally related to the C♯. Thus, the intermediate chord brings the background tritonal tension of the two main chords briefly to the foreground.



Example 7.10. Magnificat, mm. 33–40.



Example 7.11a. The harmonic structure of Magnificat.



Example 7.11b. Two alternative voice-leading routes between Am7 and E♭m7 within the space OCT 0,1.

Example 7.11c. The voice-leading routes of Example 7.11b visualized on one of Douthett and Steinbach's OctaTowers.

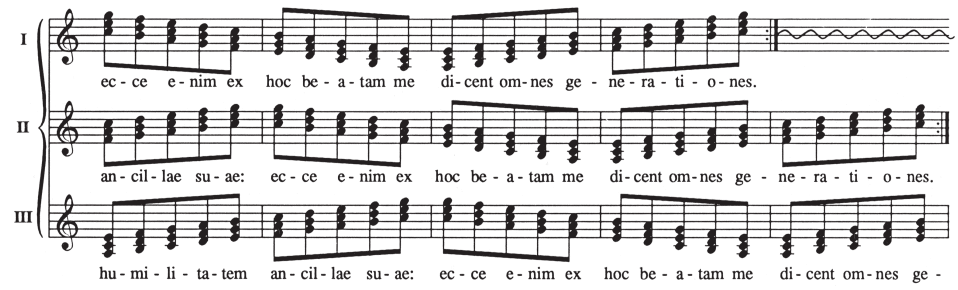
The intermediate chord A-C♯-D♯-G can also be envisioned as a condensed proxy of several parsimonious harmonic motions. As the two outer chords are octatonic poles, they can be viewed through Douthett and Steinbach's OctaTowers (1998). In the appropriate space, OCT 0,1, parsimonious motion between the two chords requires a minimum of four voice-leading steps; Example 7.11b shows two alternative routes. The first one ascends from the initial A minor seventh through C seventh, C minor seventh and E♭ seventh chords to get to the E♭ minor (D♯ minor) seventh; the other descends through A seventh, F♯ minor seventh, and D♯ half-diminished seventh to get to the same chord. Example 7.11c shows the corresponding motions on OctaTowers; both voice-leading motions require passing through four nodes.

The intermediate chord of measure 35 can be thought to condense the three middle chords of Examples 7.11b–c; each of the chords after the initial A minor seventh introduces one note of the goal, the final E♭ minor (D♯ minor) seventh chord.

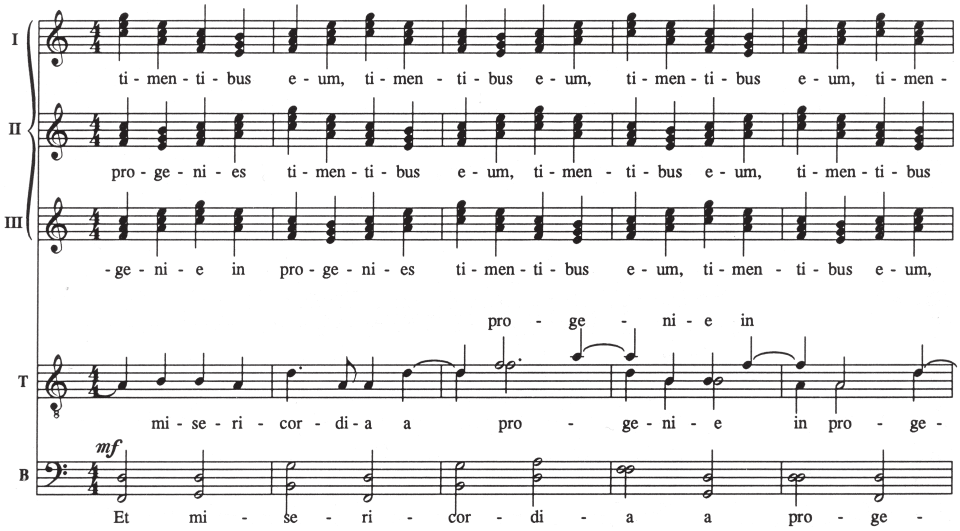
The second movement of *Magnificat*, "Quia respexit – Et misericordia," employs similar contrasts between black and white sonorities, although it does not contain a pronounced Big Bang event. It thus ties to the first movement, whose Big Bang is the least pronounced among the three works under discussion. In the first half of the piece, harmonies are predominantly white as the sopranos and altos sing motives in parallel triads, all in A natural minor, or A aeolian mode (Example 7.12). Only the melodies have occasional chromatic inflections that stand out against the all-pervasive white harmonies. In measure 49, roughly halfway through the movement, three strands of female voices start to sing overlapping triadic progressions. Each of the strands contains three parts, two for sopranos and one for altos, dividing the female voices into a total of nine parts.

Each of the overlapping progressions contains four triads – E minor, F major, A minor, and C major (Example 7.13a). Much in the same way as in the first movement "Magnificat," these overlapping triads form rather static harmonies, since the constant cycling of four triads causes either the F major or A minor chord to be doubled. In fact, the triad-textures form only two alternating chords. One contains simultaneously sounding E and A minor chords, the other, simultaneously sounding F and C major chords, each of the pairs sharing one common tone. Both of the resulting pentachords are found on continuous five-note segments on the Harmonic Circle, as is shown in Examples 7.13b-c.

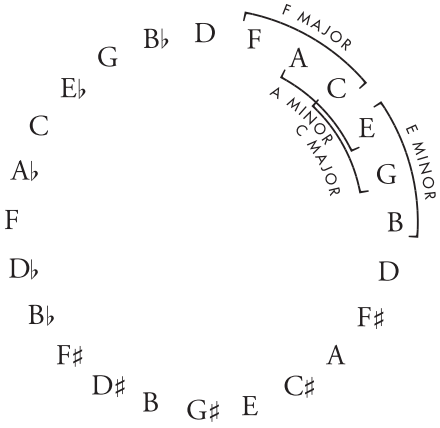
As in the first movement "Magnificat," these white harmonies are immediately contrasted by black ones. This happens in a short bridge section in measures 61–64 (Example 7.14a). The chords in these measures include B major, A♯ minor, F♯ major, and D♯ minor. The texture is much sparser here than in the previous passage, however; these chords do not generally sound together. As Example 7.14b shows, these chords are on diametrically opposite sides of the Harmonic Circle from the white chords in Example 7.13b. The white sonorities soon reappear (mm. 64–75) and are again contrasted by black ones (mm. 75–76) before the movement concludes (mm. 77–78).



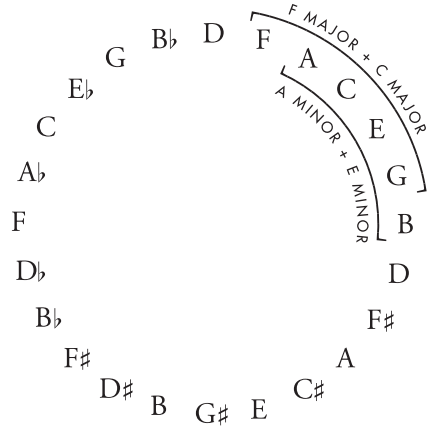
Example 7.12. Quia Respexit – Et misericordia, mm. 14–18.



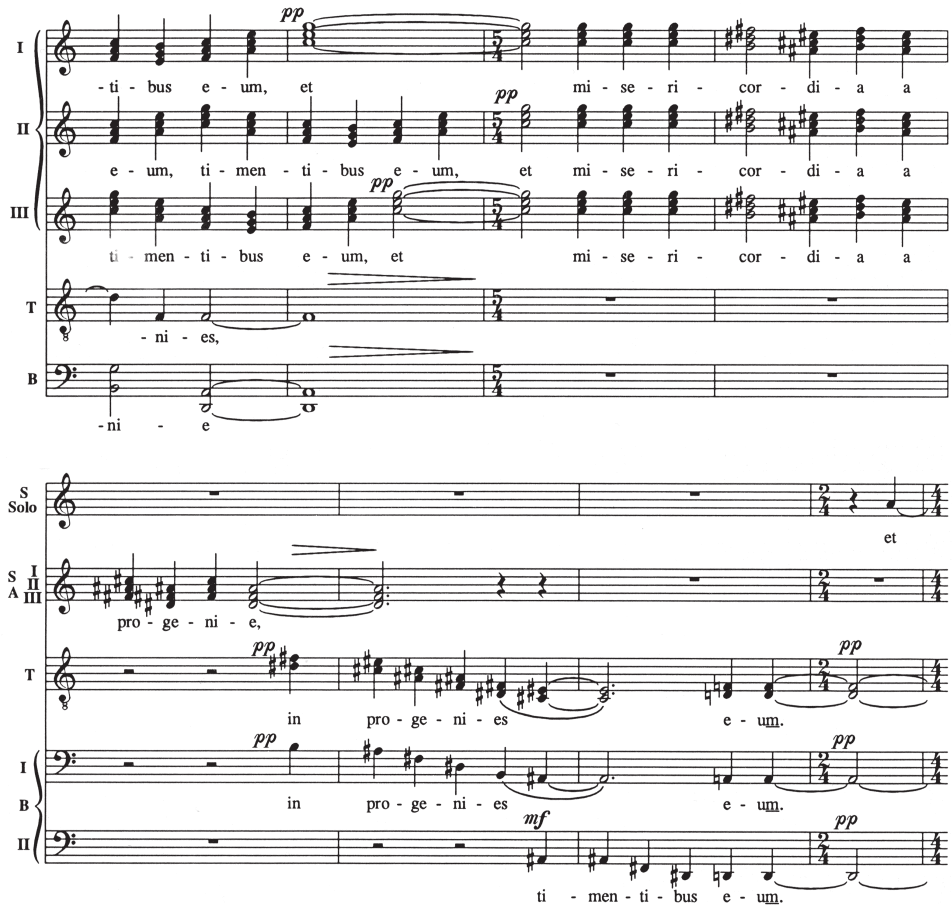
Example 7.13a. Quia Respexit – Et misericordia, mm. 53–57.



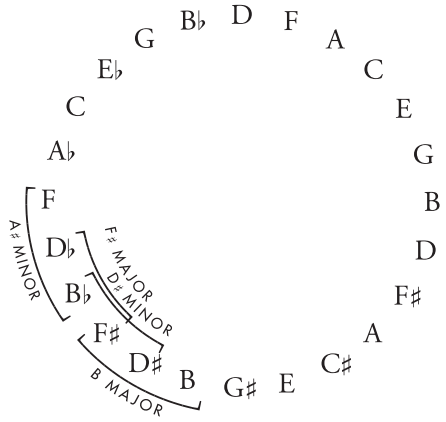
Example 7.13b. The harmonies of ex. 7.13a as triads.



Example 7.13c. The harmonies of ex. 7.13a as pentachords.



Example 7.14a. Quia Respexit – Et misericordia, mm. 58–65.



Example 7.14b. The harmonies of mm. 61–64 on the Harmonic Circle.

8
Rautavaara's Mature Style: A Synthesis of Influences (1985–1995)

Rautavaara found his late style in the mid-1980s, with the opera *Thomas* and the Symphony No. 5, written at approximately the same time. In these compositions, he found a way to reconcile most of the techniques that he had accumulated in his previous periods. Features such as neoromantic textures, triadic and modal harmonies, aleatoric counterpoint, clusters, and serialism are all to be found in Rautavaara's late works. The more modernistic devices, such as aleatoric counterpoint and clusters, are more prevalent in his works of the 1980s; from the 1990s onwards he focused more on fusing together triadic or modal harmonies (or both) and serialist techniques. He found a way to fuse these in his Symphony No. 7, *Angel of Light*, which became his international breakthrough work in the mid-1990s. After this work there were no major revolutions in his music; in subsequent works such as *Aleksis Kivi*, *Unknown Heavens*, *Rasputin*, *Book of Visions*, and many others, Rautavaara continued to refine the idiom that he had forged for himself with *Angel of Light*.

8.1 Symphony No. 5

Rautavaara's Fifth Symphony is one of the first works of his "synthetic" period. According to Kalevi Aho, Rautavaara began composing the symphony directly after having finished the opera *Thomas* in 1985 (Aho 1988, 33, 98). The symphony was premiered by the Finnish Radio Symphony Orchestra on May 14th, 1986, conducted by Esa-Pekka Salonen (ibid.). Along with *Thomas*, it was the first major composition by Rautavaara to succeed in fusing serialism with the neoromantic textures that had become prevalent in his compositions in the late 1960s (Sivuoja-Gunaratnam 1993, 225; on the serial—and other—techniques of *Thomas*, see, Rautavaara 1985 and Sivuoja-Gunaratnam 1989).

The symphony was commissioned by the Finnish Broadcasting Company. The initial idea behind the commission was for Rautavaara to compose a full concert's worth of music with the classic plan of overture, concerto, and symphony. The over-

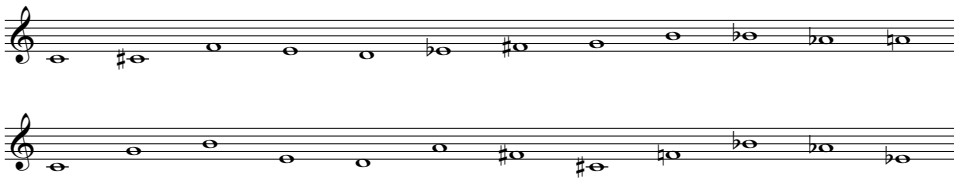
ture, *Angels and Visitations*, was finished in 1978, and the concerto, *Angel of Dusk* for double bass and orchestra, in 1980. To finish the "Angel" trilogy, Rautavaara set out to compose a piece with the working title *Monologue with Angels*. But as the work proceeded, the composer decided to call the piece his Fifth Symphony. (Rautavaara 1989, 324–329; Aho 1988, 33, 98.)

The Fifth Symphony is something of a hybrid in terms of tonal organization; it contains large, cluster-like chords, such as those in the very beginning of the piece, as well as Lutosławskian "aleatoric counterpoint," free atonality, and serialism. The whole symphony seems to be reflecting upon East European modernism of the 1960s that was so influential to modernists in Finland and elsewhere in the West (in terms of political geography)—and Rautavaara, of course, was a modernist in the 1960s, thanks to his serialist interests. It is interesting to compare Rautavaara's development as a composer to that of Krzysztof Penderecki, for example; both were avant-gardists in the 1960s but turned to a neoromantic idiom in the 1970s. Rautavaara's Fifth Symphony indeed seems to be quite influenced by East European modernism, with its one-movement plan, akin to numerous compositions of Penderecki and Witold Lutosławski, and with the prevalence of block-like chords, akin to Penderecki's clusters.

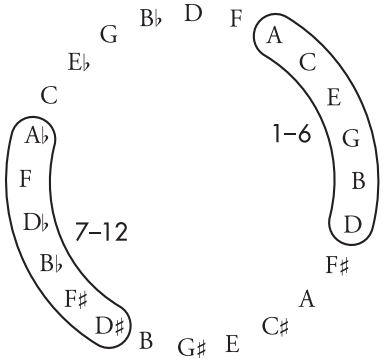
8.1.1 Serial Features

In Symphony No. 5 there are several features that were characteristic of Rautavaara's twelve-tone practices already in his first serial period around the turn of the 1960s. These features include motivic conciseness through the use of derived series, frequent allusions to tonal idioms through the inclusion of triads in the series, the use of the fifth series (M7 operations), and liberties with respect to serial ordering in the actual composition process (Kilpeläinen 1982; Heiniö 1986; Sivuoja-Gunaratnam 1989, 1993). See Example 8.1a for the prime and fifth series of the symphony. The prime series is constructed of six pairs of minor seconds (interval class 1). These intervals are a major source of unity in the symphony, because Rautavaara writes passages using motives with interval class 1 even when no clear serial ordering can be discerned. He also regularly uses only segments of the series instead of the whole twelve-tone aggregate; three- and six-note segments are the most common.

As before, the M7 operation transforms the chromatically-tinged interval class 1 of the original series into interval class 7. This yields more spacious harmonies. The series also alludes to tonal harmonies, since the first eight notes form two thirds-based tetrachords: a C major seventh and a D major seventh chord. This also links this series to the Harmonic Circle, because both of these chords are also four-note segments of the circle. Tones 8–10 also form a B♭ minor triad. D major and B♭ mi-



Example 8.1a. The Prime and fifth series for Symphony No. 5.



Example 8.1b. The fifth series on the Harmonic Circle.

nor triads (notes 5–7 and 8–10 of the series, respectively) are each other's hexatonic poles.

The most salient feature of the prime series is its constant semitonal dyads that form recognizable minor-second motives; the fifth series, on the other hand, divides the two hexachords into a diatonic tritone relation, as we have seen in the twelve-tone rows used by Rautavaara in his first serial period. The tritone relation can easily be seen when the fifth series is placed on the Harmonic Circle (Example 8.1b).

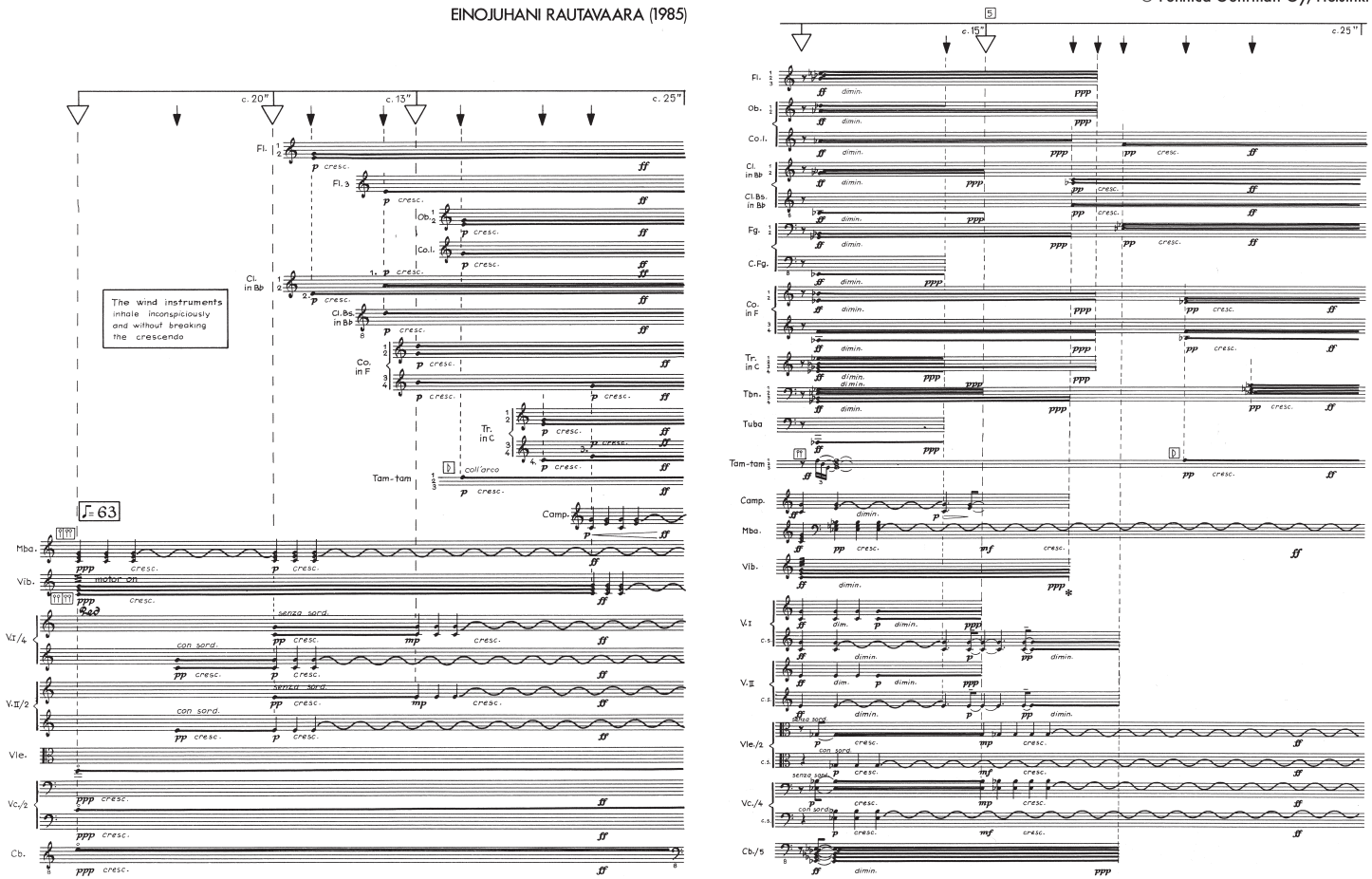
8.1.2 Tritone Relations as Generators of Musical Energy

The symphony starts with a series of slowly growing and climaxing chords; these chords are occasionally overlapped so that as one chord recedes, another one cross-fades on top of it. The first sonority is the C major triad. This is countered, in measure 4, by a pentatonic chord containing notes C♯, D♯, F♯, G♯, and A♯ (Example 8.2).[1]

The C major chord suggests a white sonority, and the subsequent pentatonic chord a black sonority. Already these first two pages of the score offer a clue to an analytic interpretation of the whole 30-minute symphony; the initial scenario includes two opposing sonorities in battle with each other—how will it turn out?

1. Until p. 11 of the score the music proceeds in "free time," that is, without specific time signatures. What I call "measures" in connection to these pages refer to the white triangles in the score that demarcate approximate real-time cues. A somewhat free conception of time signatures continues until p. 24 of the score, since aleatoric arabesques and approximately notated block-like chords occur on top of the time signature–bound chorale textures in the strings.

EINOJUHANI RAUTAVAARA (1985)



Example 8.2. Symphony No. 5, mm. 1–5.

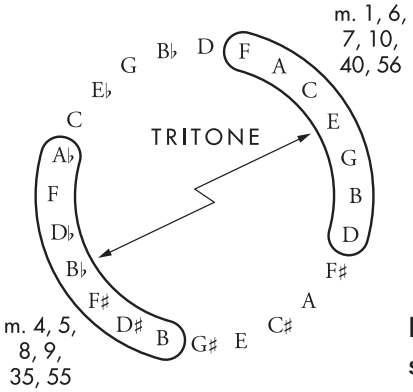
Let us consider the whole introductory passage, which lasts until measure 70 (p. 24 of the score). The sequence of the harmonies in the block-like chords in the passage unfolds as follows.

Measure	**collection**	**set-class**
1	CEG	3-11 (037)
4	C♯D♯F♯G♯A♯	5-35 (02479)
5	D♯F♯ A♯	3-11
6	CDFGA	5-35
7	DF A	3-11
8	C♯D♯F♯G♯A♯	5-35
9	C♯ F♯ A♯	3-11
10	GABDE	5-35
35	C♯D♯F♯G♯A♯	5-35
40	GACDE	5-35
55	C♯D♯FF♯G♯A♯B	7-35 (013568T)
56	CDFGAB	6-33 (023579)
65	CC♯D♯EFF♯GG♯AA♯B	

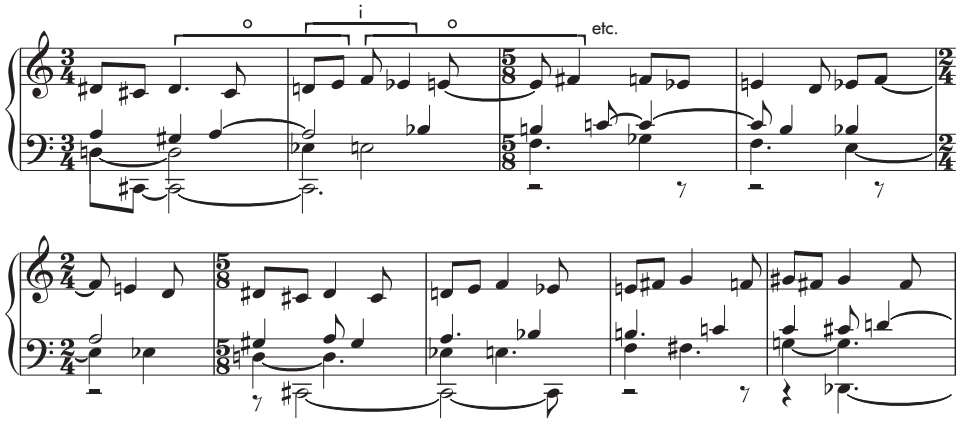
The triads (set-class 3-11) can be seen as subsets of the larger pentatonic collections; for example, the triad in measure 5 seems to emerge from the pentatonic chord in the previous measure.

When viewed on the Harmonic Circle, these harmonies can be seen to belong either to the seven-note segment of the northeastern quadrant or to the opposite side, to the seven-note segment in the southwestern quadrant. Example 8.3 illustrates the oscillation of these chords between the segments. The figure indicates the appropriate collections from which each chord can be derived; it is not suggested that all chords include all of the seven notes of the indicated segment. Moreover, the segments are nearly identical with the two hexachords of series V^0, or the fifth series beginning on C, as shown in Example 8.1 above. The only difference is that the segments in Example 8.3 contain seven tones each whereas the serial hexachords naturally only have six tones; in Example 8.3, notes F and B appear in both segments.

Towards the end of the passage, sonorities other than 3-11 and 5-35 begin to appear as well. The first of these is set-class 7-35 in measure 55. Its constituent pitch classes (C♯D♯FF♯G♯A♯B) form the complement to the preceding chord 5-35 (consisting of pitch classes CDEGA) in measure 40. Thus, these two chords fill out the chromatic scale. These two chords also bring about a situation which is completely



Example 8.3. The harmonies of the opening section on the Harmonic Circle.



Example 8.4. Symphony No. 5, mm. 77–85.

opposite to the one in the beginning of the piece; there, the C major triad implied a white diatonic scale and was subsequently countered by its black pentatonic complement. In measures 40 and 55 the situation is reversed by presenting first a white pentatonic chord and then its black diatonic complement—diatonic, since set-class 7-35 forms a diatonic collection.

In measure 65, the passage culminates in an 11-note chord, which can be interpreted as a synthesis of the various juxtapositions in the passage until here. Of the twelve possible pitch-classes, only D is missing from this chord.

Tritone relations will prove to be the main source of musical energy for the whole 30-minute symphony. Consider section B, beginning in measure 77 after a brief transition from the opening A section, discussed above. The main melody of the B section is formed by a motive that is constantly superimposed with its own inversion (and vice versa) as the motive keeps transposing (Example 8.4). The melody, though not ostensibly serial, does seem related to the prime series with its heavy semitone content. Accompanying the melody there are constant parallel tritones in the tenor range,

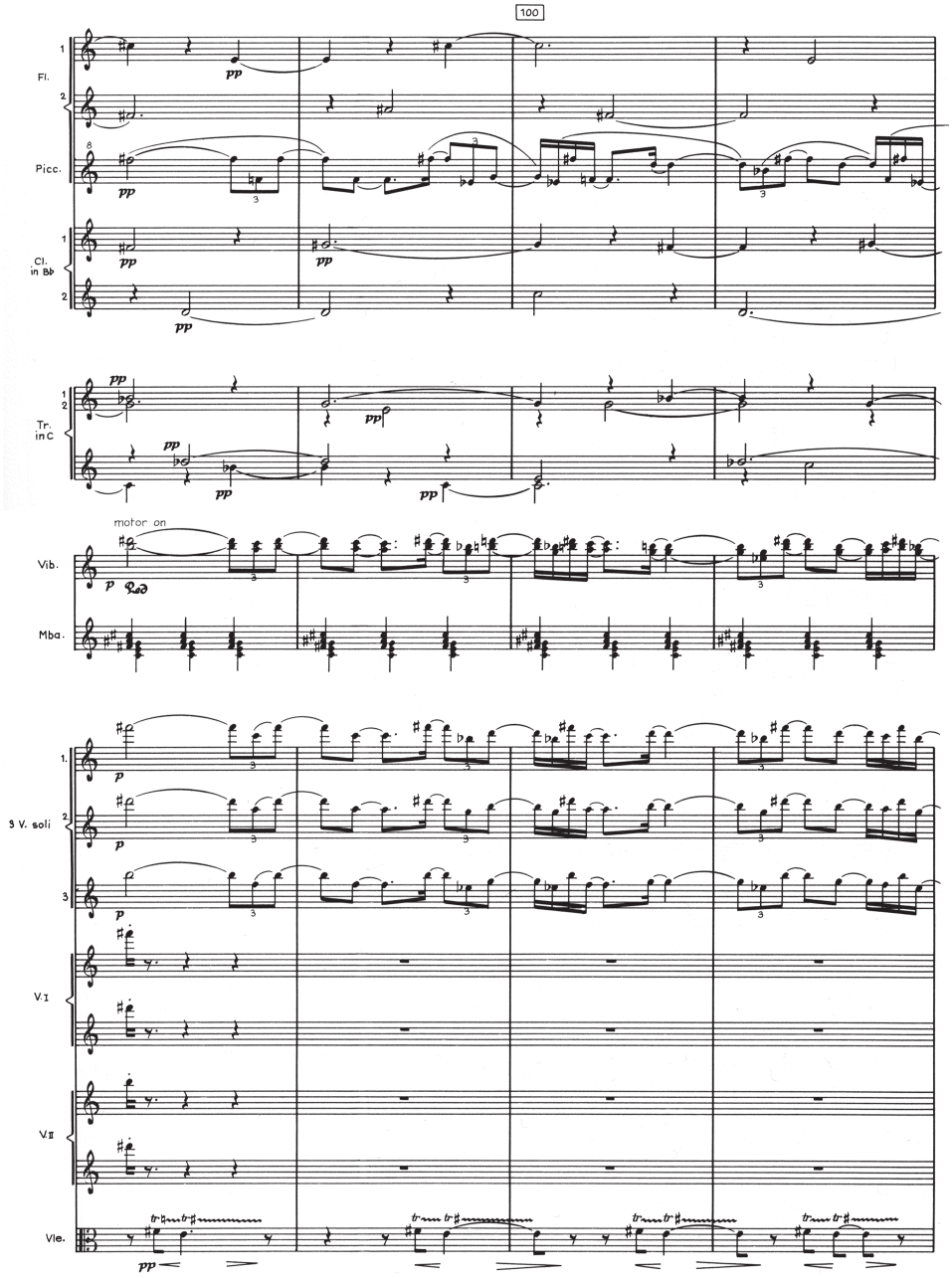
with the beginning points of their constituent notes rhythmically staggered. Hence, in measure 77, a tritone is formed by D♮ and G♯, in measure 78 by A and E♭ as well as E and B♭, and so on. In this section of the Symphony (measures 77–96), tritones move further into the musical texture than was the case in the A section (measures 1–76); in the previous section the tritone caused tension *between* consecutive sonorities, in the B section it is embedded in the sonorities and causes tension *within* them.

Similarly, tritones are embedded in the next section as well (Section C, mm. 97–108). Throughout the passage, the marimba repeats a C major/F♯ major chord, or Petrushka chord. This harmony is amplified by long notes in the flutes, clarinets, and trumpets. Over this harmonic pedal point, three solo violins, vibraphone, and piccolo outline a melody in parallel triads. Quite subtly underneath all this the violas trill two notes, F♯ and E (Example 8.5a).

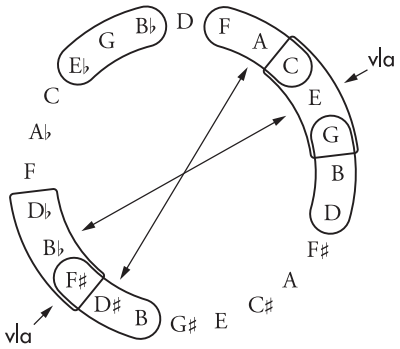
The material in the three solo violins, vibraphone, and piccolo outlines the following four triads: B major, F major, E♭ major, and G major. The first two of these contain the same tritonal relationship as the two triads in the Petrushka chord, constantly pulsing in the background. Example 8.5b illustrates the three main elements of the passage as laid on the Harmonic Circle. The two triads contained by the chord in the marimba are indicated by rectangular borders; the four chords of the three solo violins are indicated by elliptical borders; and the two notes of the violas are indicated by arrows outside the circle.

The chords in this passage can be analyzed with Douthett and Steinbach's Cube Dance, which is based on Richard Cohn's investigations of hexatonic systems (Douthett and Steinbach 1998, 253–254). A hexatonic system, as defined by Richard Cohn, is a "maximally smooth" system, meaning that "only one voice moves, and that motion is by semitone" (Cohn 1996, 15). Elsewhere, Cohn has investigated sum classes, i.e., the sums of the pitch classes in triads, to analyze voice-leading efficiency (Cohn 1998b). In short, the sums of the pitch classes of triads are calculated, modulo 12, and voice-leading efficiency is gauged on the basis of the differences of those sums.

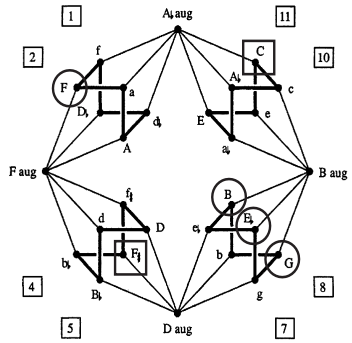
Example 8.5c shows the triads of Example 8.5b on Cube Dance. As in 8.5b, the violins' chords are shown with elliptical borders and those of the marimba with square borders. The numbers inside the squares on the perimeter of the figure indicate the sum classes of the chords. The example shows that three of the four violin chords (G, E♭, and B major triads) have the same sum class, 8; the sum class of the fourth (F major) is 2. The difference in sum classes, 6, reflects the distance of the F major chord from all the other violin chords—it is in a different hexatonic system than all the other chords. The G, E♭, and B major triads are in the Western system,



Example 8.5a. Symphony No. 5, mm. 98–101.



Example 8.5b. The main harmonic elements of mm. 97–108.



Example 8.5c. The same triads on Douthett and Steinbach's Cube Dance.

while the F major is in the Eastern system, according to Cohn's earlier formulation (1996, 17). Moving from one of the chords with the same sum class (here G, E♭, and B major triads) to any of the others requires voice-leading motions of two semitones; moving to the opposite side to F major (or indeed any of the chords with sum class 2) requires voice-leading motions of six semitones. The same sum class difference, 6, is found between the triads in the marimba's constant C major/F♯ major pulsation (sum classes 11 and 5). Those triads belong to the Northern and Southern hexatonic systems, respectively, in Cohn's formulation (ibid.).

Thus, three of the four violin chords in this passage are chosen so that relatively smooth transitions can be achieved. They are superimposed with two tritonal poles, the B major/F major pole in the violins and the C major/F♯ major pole in the marimba.

In the following sections of the Symphony the tritone too remains a driving generator of harmonic tension. The following section (Section D, mm. 109–138) is based, first, on the fifth series which is divided into tritonally-related hexachords (and is often accompanied here by Messiaen's sixth mode, whose two tetrachords similarly reside on diametrically opposite sides of the Harmonic Circle).[2] Later in the same section (mm. 129–138), tritones come to the foreground of the music as bassoons, contrabassoon, bass clarinet, and horns play motives in parallel tritones.

2. For instance, at T_0, the first tetrachord of Messiaen VI contains the notes C, D, E, and F, and the second tetrachord the notes F♯, G♯, A♯, and B. The former tetrachord can be found in the northeastern quadrant of the Harmonic Circle and the latter in the southwestern quadrant. See Chapter 2.4.

8.1.3 Spiral Form and Closed Torpedo

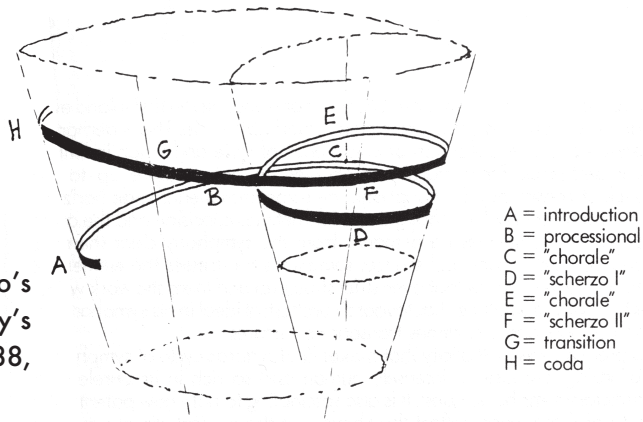
In the mid-1970s, Rautavaara began to experiment with music that had no repetitions or motivic development, as he wrote in his diary in 1977:

> I want my music [to] be a landscape where the listener walks along (or rather drives along) (remember the childhood dream of a closed torpedo)—without ever stopping—where he never knows what to expect, what is behind [the] next corner; no repeats, no thematic returns, no motivic development—strange and beautiful trees or flowers turning up one after another, but never returning—leaving a nostalgic feeling to meet again, in vain, in vain; only new wonders in an incessant changing, endless parade. (Rautavaara 1969a, entry in March 1977, quoted in Tiikkaja 2014, 371. Original in English.)

Rautavaara was writing about his Violin Concerto, but the description could be applied to other compositions as well. Symphony No. 5 seems to be the culmination of this mode of composing; there are no repetitions, merely reminiscences of and allusions to past musical events as the Symphony progresses. Kalevi Aho's analysis of Rautavaara's Symphony No. 5 as a widening spiral (Aho 1988, 100–101; see Example 8.6) is an elegant interpretation of this compositional strategy: new events, even when they seem to recall past ones, seem to be on an outer curve each time that reminiscences arise.

It is as if the massive chord blocks of the beginning, with their pronounced tritone relations, wound up a spring, and the rest of the Symphony can be likened to a slow and gradual release of its tension. In terms of Rautavaara's Big Bang form, discussed in Chapter 7.2, the cataclysmic event in the Symphony occurs right at the start and lasts for nearly 7 minutes. The remaining 25 minutes are reactions, aftershocks, or tremors; they are mere consequences of the initial cataclysm.

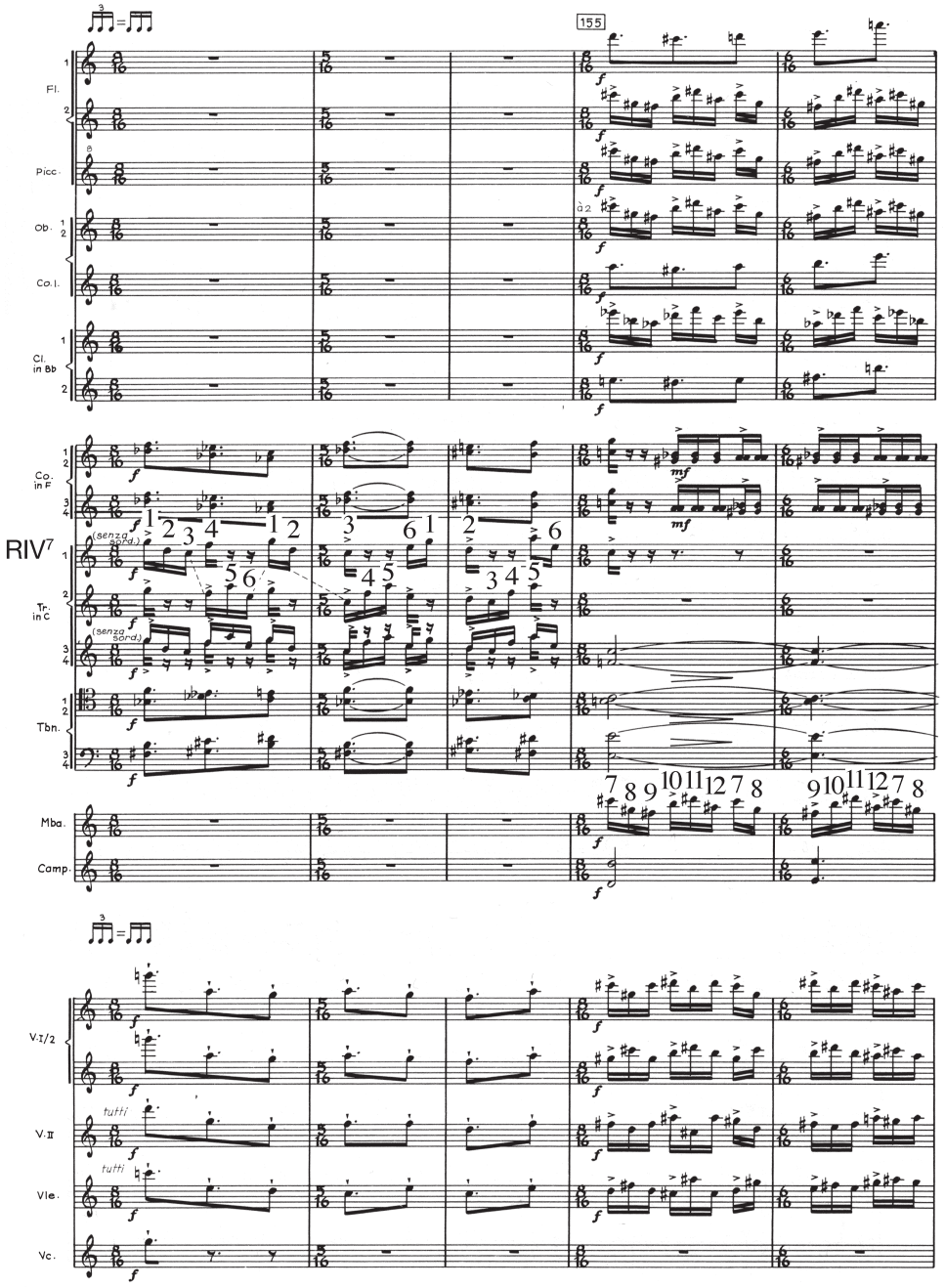
Clear tritone relations have been present on the foreground of the music in all sections up to measure 138, as discussed in Chapter 8.1.2. In subsequent sections, tritones begin to recede more and more to the background. In measure 139 a new section begins that Kalevi Aho has called 'Scherzo I'; it is indeed a fast and energetic section. The strings build up tension with rising, generally stepwise flurries of Messiaen's sixth mode, and in doing so create tritonal contrasts of the two hexachords of the scale that constantly flick between the white and black sides of the Harmonic Circle. Some tritones are also present in the fast sixteenth-note triplet themes that woodwinds and strings play between the modal flurries, but they are not instantly recognizable in the midst of the parallel strands of the triplet themes. The next subsection of the scherzo (measures 152–179) features Stravinskyan asymmetrical rhythms, while the tonal organization is derived from the retrograde inversion of the fifth series, or



Example 8.6. Kalevi Aho's analysis of the Symphony's form as a spiral (Aho 1988, 101).

conversely, the retrograde of the fourth series (Example 8.7). As the hexachords of the fifth series are at the distance of a tritone from each other, they create distinct, contrasting areas, especially when the series is used as it is in Example 8.7, with the two hexachords clearly separated by texture and instrumentation. Note also that the series in this particular transposition divides neatly into white and black hexachords.

The third subsection of Scherzo I (mm. 180–197) is a march with rather Shostakovichian textures. The tone organization reverts to various forms of the prime series with its abundant semitones. Scherzo I gives way, in measure 198, to the most extensive section of the Symphony. As Aho notes, this section looks back on the chorale-like textures that were abundant in the beginning of the Symphony, especially the section that begins in measure 77 (cf. Example 8.4 above). The current section can be interpreted as a slow movement. In terms of pitch organization, the music is written with various forms of the fifth series until measure 217, when the semitones become more prominent in the music, and traces of the prime series can be detected—although never as a whole series, but usually only hexachords of a given series-form. The melody, played by flutes and violins in three concurrent strands, contains more or less constant parallel tritones between the voices (see Example 2.32c in Chapter 2.4, showing measures 217–218). By measure 249, the fifth series returns, and with its more spacious sound creates a bridge to a rather diatonic-sounding melody that begins in measure 255. From here until the end of the "slow movement" (measure 312), Rautavaara recycles materials from his opera *Thomas*, and it is from the opera's vocal melodies that the instrumental melodies in this passage originate from (for more information on the pitch organization and other features of *Thomas*, see Rautavaara 1985, as well as Sivuoja-Gunaratnam 1989). Materials from *Thomas* appear in the following section as well. In Aho's analysis, this section (mm. 313–399) is Scherzo II and has gestural and textural similarities with Scherzo I, but without literal repetitions of material.

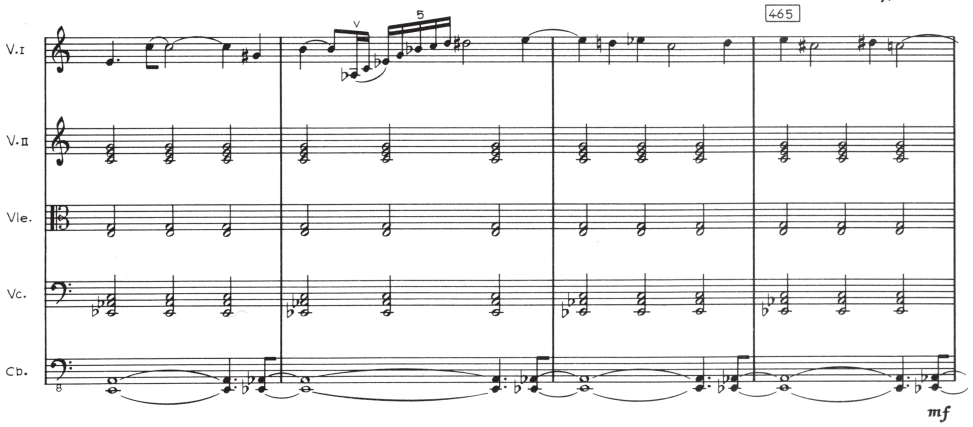


Example 8.7. Symphony No. 5, mm. 152–156.

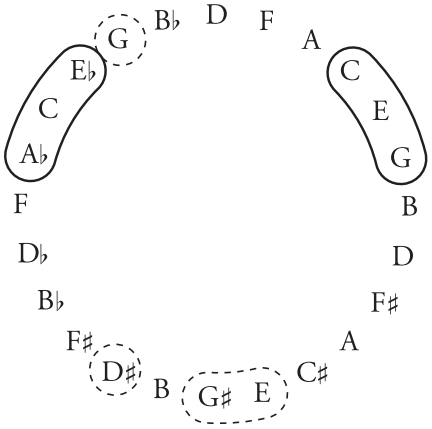
The beginning of Scherzo II (mm. 313–355) is infused with interval class 1. The music is not derived from the prime series but does seem motivically related to the series by virtue of its semitones; the series is composed of six semitonal dyads. But for the most part, the series is not present in any plausibly analyzable form. The music intensifies as the scherzo progresses and the bass line and the melody/harmony both keep highlighting interval class 1. Scherzo II ends with lengthy quotations from the second act of *Thomas* (beginning in measure 374; quoting from rehearsal number 27, page 308 of the opera). In fact, the preceding measures of Scherzo II resemble those passages of *Thomas* that directly precede the passage quoted in the Symphony (rehearsal numbers 21–26 of Act II, pp. 291–307), but this is not an instance of literal quotation.

After Scherzo II, the kinetic energy of the music begins to wane. Right at the start of the following section, in measures 400–412, the more energetic phrases are interrupted by C major/minor chords on the strings, with E♭ bass support. As Aho writes (1988, 100), this harmony alludes to the very beginning of the Symphony with its majestic C major chord. Here, towards the end of the Symphony, the harmony is clouded by the minor third E♭, which makes the harmony ambiguous, and the two constituent triads, C major and C minor can be found on the northeastern and northwestern quadrants of the Harmonic Circle, respectively. It is as if all that has happened in the Symphony since the initial, bright C major chord has irreversibly affected and permuted the harmony. Scherzo textures still prevail even in this new section of the Symphony (mm. 400–446), but they are increasingly offset by C-based harmonies, similar to the C major/minor chords of measures 400–412. The scherzando textures generally feature interval class 1, either as motives featuring minor seconds or parallel major sevenths.

The final section of the Symphony, a Coda, begins in measure 447, and concludes the whole piece in measure 493. Here, the C-based harmonies have finally taken over the scherzando textures and have in the meantime evolved even further. First, the C major/minor chord has gained the note A♭, in effect transforming the harmony into a bitonal C major/A♭ major chord (Example 8.8a). This chord can be interpreted as fusing together some of the notes from the two hexachords of the fifth series (cf. Example 8.1a); the notes of the C major chord are on notes 1, 2, and 4 of the series, A♭ and E♭ on notes 11 and 12, respectively. On the Harmonic Circle, the notes of the chord can be laid out as in Example 8.8b; in it, the two triads (perhaps the most elegant way of tracking this particular chord) are indicated by solid lines, and as an alternative way of visualizing, doubled tones are indicated by dotted lines as well. In sum, the chord seems rather widely spread on the Harmonic Circle, incorporating notes from the white (C-E-G) and black (A♭-E♭) harmonic spheres.



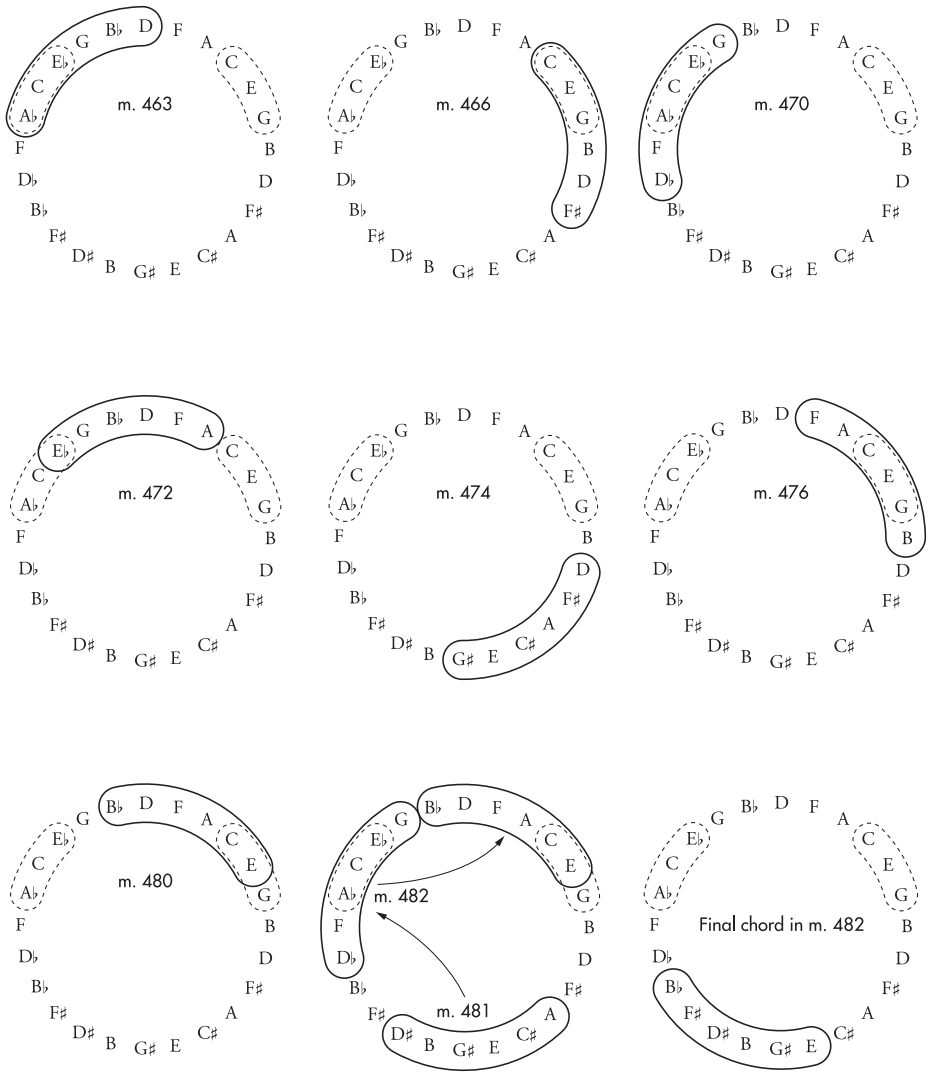
Example 8.8a. Symphony No. 5, mm. 462–465.



Example 8.8b. The harmony of Example 8.8a on the Harmonic Circle.

Example 8.8a shows the first violins playing a melody on top of the slowly pulsating chords; this melody alludes to the processional melody that emerged in the first section of the symphony in the midst of the majestic chord blocks. In measure 463, the melody includes an arpeggiated A♭ ninth chord that continues by step to D♯. As the music progresses, such arpeggiations of different chords become ever more frequent until they reach a saturation point in measures 481–482, where two strands of arpeggiations alternate in a rapid fashion. These flick around different sides of the Harmonic Circle, as shown in Example 8.9, settling finally on an E-based harmony over the C major/A♭ major pulsation which remains constant throughout the section.[3] After measure 482, the harmony changes once more with the bass support finally moving down to C. This supports a harmony that contains a C major chord

3. The constant C major/A♭ major harmony is indicated with dotted lines in Example 8.9.



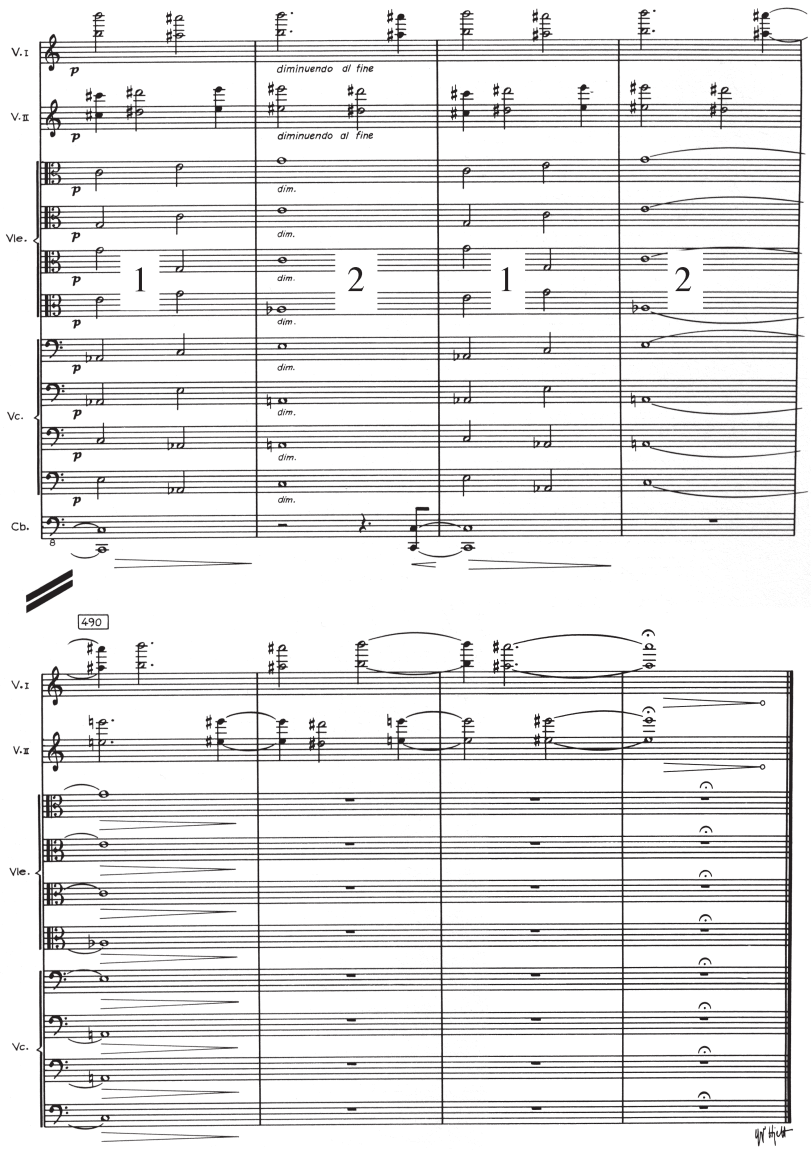
Example 8.9. The harmonies of mm. 438–482 on the Harmonic Circle.

with an added A♭. This harmony alternates with a symmetrical chord containing C major and A minor chords around an A♭ axis of symmetry. This symmetrical chord does not receive bass support, but the low C fades away both times that it appears in the texture (Example 8.10a). In the end, this symmetrical chord is the final harmony of the Symphony before fading away and leaving only two strands of melody in the violins to sound for three more measures.

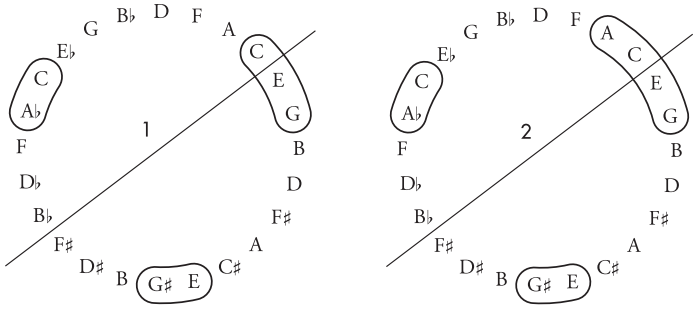
Example 8.10b shows these two last harmonies on the Harmonic Circle. The symmetricity of the final chord is visible with the aid of a D/A♭ axis of symmetry. There are traces of the stark contrast of black and white that dominated the beginning of the Symphony, but with its actual tritone relation missing. The main harmonies—C major and A minor seventh chords—are clearly in the white harmonic area, and the remaining two dyads (A♭-C and A♭-E) flank the black harmonic area. In a sense the final chords are affected by and allude to the distinction between the initial, contrasting black and white hexachords, but are forever changed by the journey—or procession—through the symphony.

And what about the tritones that are so pervasive throughout much of the Symphony? By the end, they have all but disappeared from the texture. They are notably absent from the structural harmonies after Scherzo II. At the end of the coda, the two strains of violin melodies weave back and forth, from the greatest distance of a minor seventh between C♯ and B to the smallest distance of a perfect fourth between E♯ and A♯. Tritones form when the first violins play A♯ and the second violins play E and when this dyad is followed by a B-E♯ dyad (see Example 8.10a, where either or both of these dyads appears in every measure). The final release from the tritone, so prominent throughout the Symphony, occurs in the final two measures (492–493) as the second violins' E♮ ascends to E♯, resolving the tritone formed by E and A♯ to a perfect fourth E♯-A♯.

The overall plan of the Symphony, then can be interpreted as a journey away from a conflict between completely opposing harmonies. First, the conflict is very much structural, taking place between harmonies that are polar opposites of each other. Subsequently the conflict moves constantly away from the structural plane towards the foreground of the music, until in the end it exists only in the melody, resolving only in the last two measures of a Symphony of nearly 500 measures in total and over 30 minutes' duration.



Example 8.10a. Symphony No. 5, mm. 486–493.



Example 8.10b. The two harmonies of Example 8.10a on the Harmonic Circle.

8.2 Symphony No. 7 "Angel of Light"

Rautavaara's Seventh Symphony *Angel of Light* (1994–1995) marks the culmination of his stylistic development through multiple periods and many decades. It was in this work that he perfected his mature idiom, combining many of the techniques and means of expression that he had employed at various times in his career. With hindsight, *Angel of Light* can be seen as the utterly logical conclusion of a long and winding evolution, with multiple threads coming together in an impressive and coherent weave. Having discovered the essence of his creative idiom, Rautavaara retained this synthesis style until the end of his life.

Rautavaara wrote the Symphony to a commission by the American musicologist and conductor David Pickett, who wanted Rautavaara to write a new work for the 25th anniversary of the Bloomington Symphony Orchestra, of which Pickett was the conductor, in 1995. Pickett was hoping for a minor piece, like an overture, but Rautavaara had other plans. "Something bright, large and spacious was emerging in my mind, something otherworldly but not as darkly mystical as *Angel of Dusk*; instead, it was glowing and poetic," he later explained (Rautavaara E. & S. 2001, 117–118).[4]

When working on his Symphony No. 7, Rautavaara was reluctant to give it an 'angel' title. "It had hit me very hard that when something like angels become popular, they also become banal," he said (Tuomela 1997).[5]

Yet angels had everything to do with the symphony that was emerging. Rautavaara's interest in angels was never of the New Age variety; his fascination stemmed from C. G. Jung's theory of archetypes and the terrifying angel appearing in Rilke's poetry, as in the first of the *Duino Elegies*. Rautavaara had set that poem in his *Die erste Elegie* only a short while earlier, and its musical material also found its way into the Seventh Symphony (The Symphony also contains materials from several other compositions, such as *Canción de nuestro tiempo*, *Notturno e Danza*, *Canto IV*, and *The Gift of the Magi*; on Rautavaara's self-allusions and quotations, see Chapter 2.5 and Tiikkaja 2004).

The Bloomington Symphony Orchestra was an amateur ensemble, and Rautavaara's new symphony was beyond its capabilities from the start, even though the composer was well aware of the orchestra's technical skill level when writing the work. The original title of the work was *Bloomington Symphony*; it was premiered on 23

4. "Mielessäni oli alkanut syntyä jotain valoisaa miellettä, isoa ja väljää, jotain tuonpuoleista kyllä mutta ei mustaa mystiikkaa, niin kuin jokin *Angel of Dusk* oli ollut, vaan hohtavaa, runollista."

5. "Olin kokenut kauhean raskaana sen, että kun joku asia niinkuin enkelit tulee populaariksi, niin se banalisoituu."

April 1995. Rautavaara did not attend the premiere, but he revised the work on the basis of rehearsal and concert recordings for its next performance at the Helsinki Festival in August 1995 (For a more in-depth discussion of the genesis of the music and title of Rautavaara's Symphony No. 7, see Tiikkaja 2000, 2–4; 2014, 485–503.)

8.2.1 Thematic Materials and Serial Features

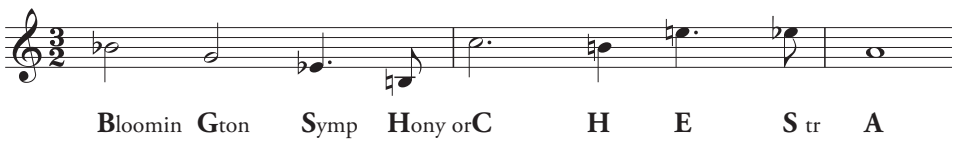
Throughout the Symphony, Rautavaara uses a theme that he derived from the name of the commissioning party, the Bloomington Symphony Orchestra, using the German musical notation used in Finland where B stands for B♭, S can be interpreted as Es (E♭), and H stands for B♮ (Example 8.11).

Rautavaara occasionally uses the theme as a motive, without a specific rhythmic shape associated with it, but in its thematic guise, as in Example 8.11, he assigns the longest durations to those notes that form triads; in the first measure these are B♭, G, and E♭, forming an E♭ major chord, and in the second and third measures, C, E, and A form an A minor chord. Note that the roots of the two chords are a tritone apart.

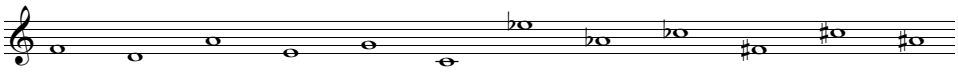
The main twelve-tone row is identical to the one that Rautavaara used in his String Quartet No. 2, in 1958 (see Chapter 4.5). It contains four consecutive triads (Example 8.12a) and the two hexachords map to opposite sides of the Harmonic Circle (cf. Example 4.13). The Symphony begins with a slow unfolding of this series and its intensification leads to a section featuring the Bloomington theme. The middle sections of the first movement are composed predominantly with the M7 transformation of the first series, which turns interval class 7 into interval class 1 and vice versa (Example 8.12b).[6]

Rautavaara also found a way to incorporate the Bloomington theme into a twelve-tone row. Eliminating pitch repetitions leaves a 7-note motif which he then fashioned into a symmetrical twelve-tone row; it contains the Bloomington motif in retrograde inversion in places 1 to 7 and in its basic form in places 6 to 12 (Example 8.13). Like the row used for the opening, the Bloomington theme row contains several triads. Rautavaara mainly uses this row in the rapid figures of the scherzo-like second move-

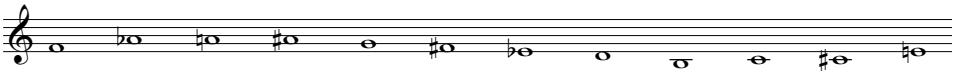
6. Since the M7 operation is symmetrical—applying it to a series which is already the result of an M7 operation yields the original series—it is a matter of preference which series-form is designated the prime or the fifth series. In the case of Rautavaara's Seventh Symphony, the series containing four triads is encountered first and was therefore possibly the one that Rautavaara began to work with before turning to its M7 transformation. On the other hand, in String Quartet No. 2, Rautavaara's matrices indicate that he considered the triad-imbued series a fifth series derived from the more chromatic prime form (see Example 4.9). Thus it is possible that in the Symphony, too, he considered the chromatic version to be the prime form and the triadic version the fifth series—since he certainly took both series-forms into account prior to composing the Symphony. I have chosen to call the chromatic version the prime and the triadic version the fifth series, following Rautavaara's conventions in earlier compositions.



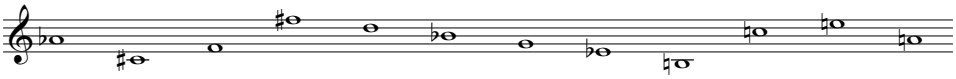
Example 8.11. The Bloomington theme.



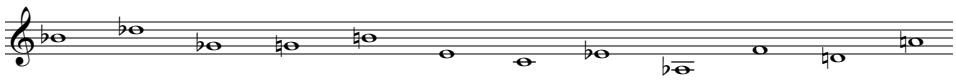
Example 8.12a. The main series of Symphony No. 7.



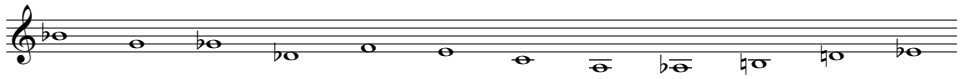
Example 8.12b. The M7 transformation of the series in Example 8.12a.



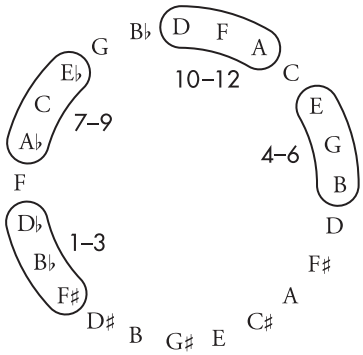
Example 8.13. A series incorporating the Bloomington theme.



Example 8.14a. The main series of Canto IV.



Example 8.14b. The M7 (fifth series) transformation of the series in Example 8.14a.



Example 8.14c. The triads of Example 8.14a on the Harmonic Circle.

ment, burying the Bloomington motif far deeper in the texture than with the bold, exposed horn statements in the first movement.

The third movement is written mainly with the triadic series of Example 8.12a and is an expanded and reorchestrated version of *Notturno* for violin and piano, written by Rautavaara shortly before the Symphony. The finale reuses sections from *Canto IV* for string orchestra. *Canto IV* was also written before the Symphony and is also essentially serial; its main twelve-tone series contains four triads (see Example 8.14). The hexachords of the series in Example 8.14a do not settle on opposite sides of the Harmonic Circle (Example 8.14c), unlike those of the series in the beginning of the Symphony (see Example 8.12a). On the other hand, the triads in themselves are a major source of unity between the two movements of the Symphony as are the constant recurrences of the Bloomington theme throughout the movements.

8.2.2 Tritone Poles: Sources of Harmonic Tension

The interplay between the two hexachords of the main series, with their tritone relation, proves to be a significant source of harmonic energy in Symphony No. 7. In this sense, the dynamic is similar to the Symphony No. 5, where the stark tritone relation extends to non-serial writing as well. In Symphony No. 7, the series creates constant tritone poles whenever it is heard in its entirety, thus infusing the music with considerable harmonic tension which underlies the softly undulating, neoromantic textures.

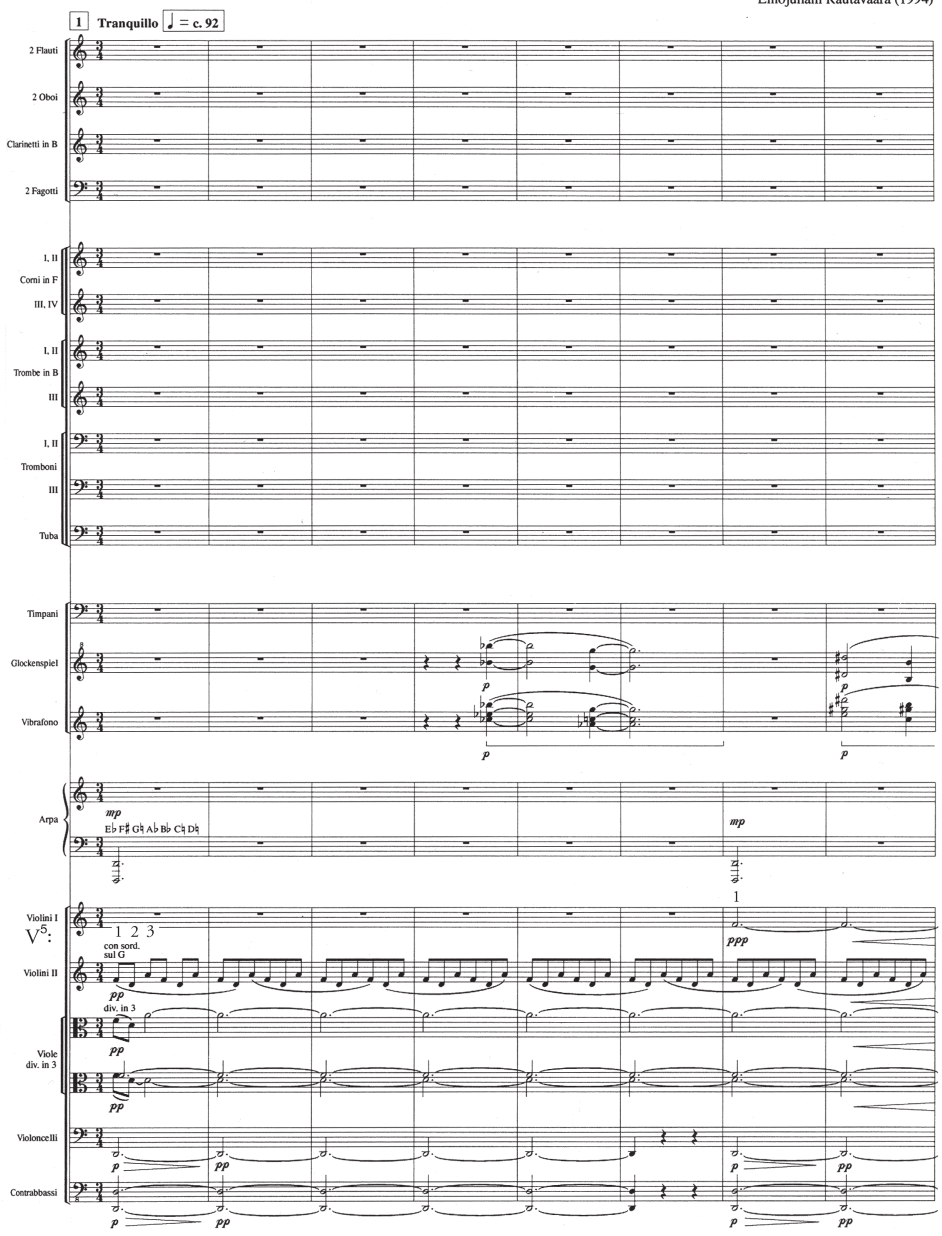
This becomes evident already in the first few minutes of the first movement. The movement begins with the second violins arpeggiating the first trichord of the main series over a D root (Example 8.15). The motifs of metallophones in measures 4–9 foreshadow the Bloomington theme, which does not appear properly until the next section, which begins in measure 93. The first violins begin to outline a melody based on the series in measure 8, while the second violins proceed to unfold the series underneath the melody. The bass root becomes a pedal point for 29 measures, until the violins have gone through the first transposition (V^5) of the series. Towards the end of the passage, the tension between the bass pedal point and the harmonies from the series increases. This is because the bass tone D and the harmonies are on opposite sides of the Harmonic Circle—the harmonies are derived from notes 7–12 of the series, i.e., G♯ minor (notes 7–9) and F♯ major (notes 10–12) triads. Therefore, the bass and harmonies create a tritone pole that seeks resolution in the following measures. The resolution comes in measure 30, where the bass root moves by a tritone from D to A♭. However, any sense of resolution is fleeting because at the same time the harmony moves to transposition V^2, whose first note D instantly clashes with the new bass root A♭ (Example 8.16).

Symphony No. 7

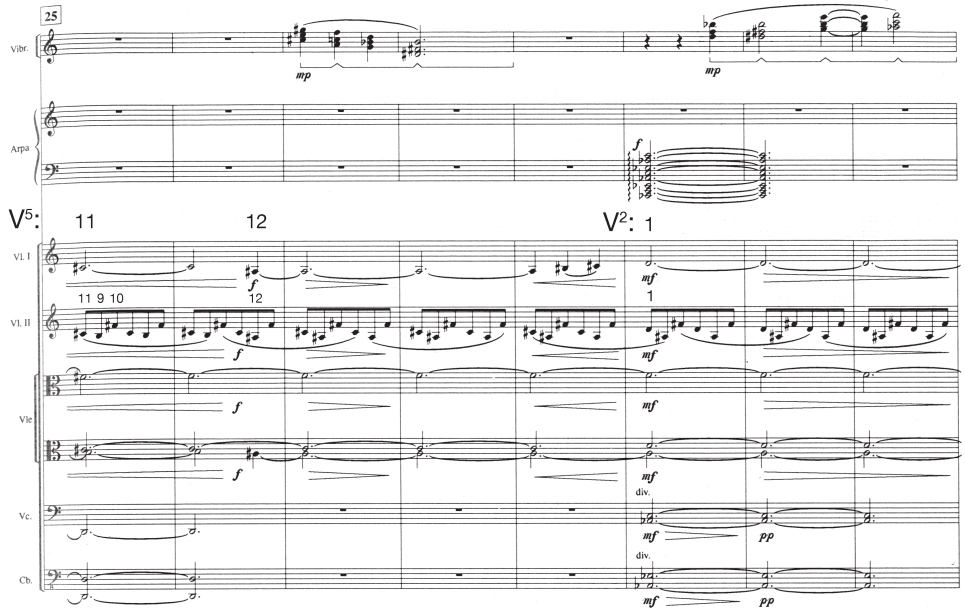
"Angel of Light"

I

Einojuhani Rautavaara (1994)



Example 8.15. Symphony No. 7, 1st movement, mm. 1–8.

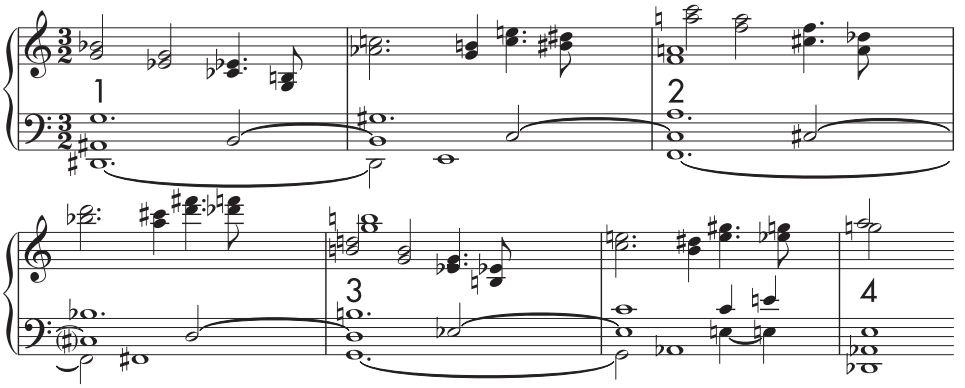


Example 8.16. Symphony No. 7, 1st movement, mm. 25–32.

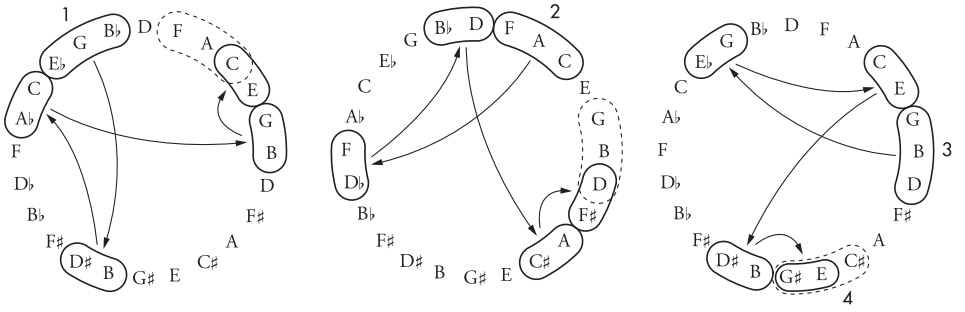
The first section of the movement culminates in the first proper appearances of the Bloomington theme (mm. 93–98). It retains harmonic tension throughout because it seems to modulate constantly. Already the underlying tritonal tension between the two halves of the theme creates a sense of harmonic volatility; when it is harmonized with parallel thirds, as it is here, chromatic inflections render the harmony quite unstable (Example 8.17a).[7] Note that the E♭ of the melody in measure 93 is not harmonized by a B♭, which would tie it to the E♭ major chord formed by the first two half-notes of the measure. Instead, the E♭ is harmonized with a C♭ (enharmonically B♮), which moves the harmony into the direction of the following G/B♮ dyad on the last eighth note of the measure. This in part adds to the impression of a constantly modulating phrase. The voices of the bass line and harmony rise by semitones, supporting the three iterations of the Bloomington theme, which modulates up by a whole tone on each of the repetitions. The consecutive dyads move around the Harmonic Circle, as seen in Examples 8.17b–d. For the sake of clarity, the Examples omit the dyads with the shortest durations, specifically the eighth notes at the end of each measure.[8] The dotted lines in Examples 8.17b–c

7. Violins and violas are omitted from the example; they play wide bands of parallel arabesques in Messiaen's third mode.

8. They could certainly be included in the examples, where they would indicate even more motions around the Circle. For instance, in Example 8.17b, from the B-D♯ in the south we would jump to the G-B in the east, then to A♭-C in the west before returning to the G-B



Example 8.17a. Symphony No. 7, 1st movement, mm. 93–98 (violins omitted).



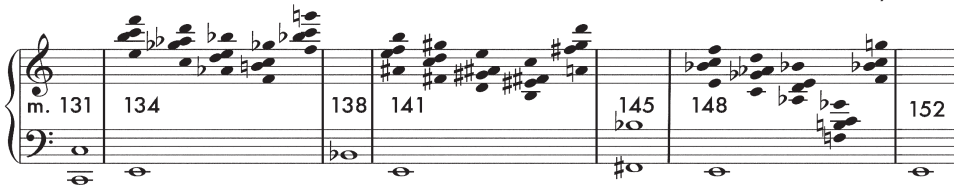
Examples 8.17b–d. The harmonies of Example 8.17a on the Harmonic Circle.

indicate the triads on the downbeat of the following measure, and of the following example.

The first movement continues with a subdued bridge section, written at first with inversions of the prime series. In measure 123 they yield to the fifth series, which indicates a reminiscence of the opening section and leads eventually back to the Bloomington theme (measures 158–163). The harmonic treatment of the theme is similar to its first appearance in measures 93–98, discussed above. After this, the music leads to a coda where the Bloomington theme is occasionally heard as a glimmering, otherworldly intervention on metallophones and harp, before becoming subsumed into the violin textures in the very final measure, over a constant pedal point in the bass.

The second movement begins as a scherzo, using the series that incorporates the Bloomington theme. It does not take long for the music to calm down and return to the fifth series. At the end of the movement (mm. 110ff), scherzo textures return and

in the east. Similarly, from the C-E in the northeastern quadrant we would jump to C-E♭ in the northwestern quadrant before settling on the F-A-C triad, marked in Example 8.17b with a dotted line to indicate the goal of the motion on the downbeat of the following measure. In Example 8.17c the same chord is marked with an solid line and labeled with number 2.



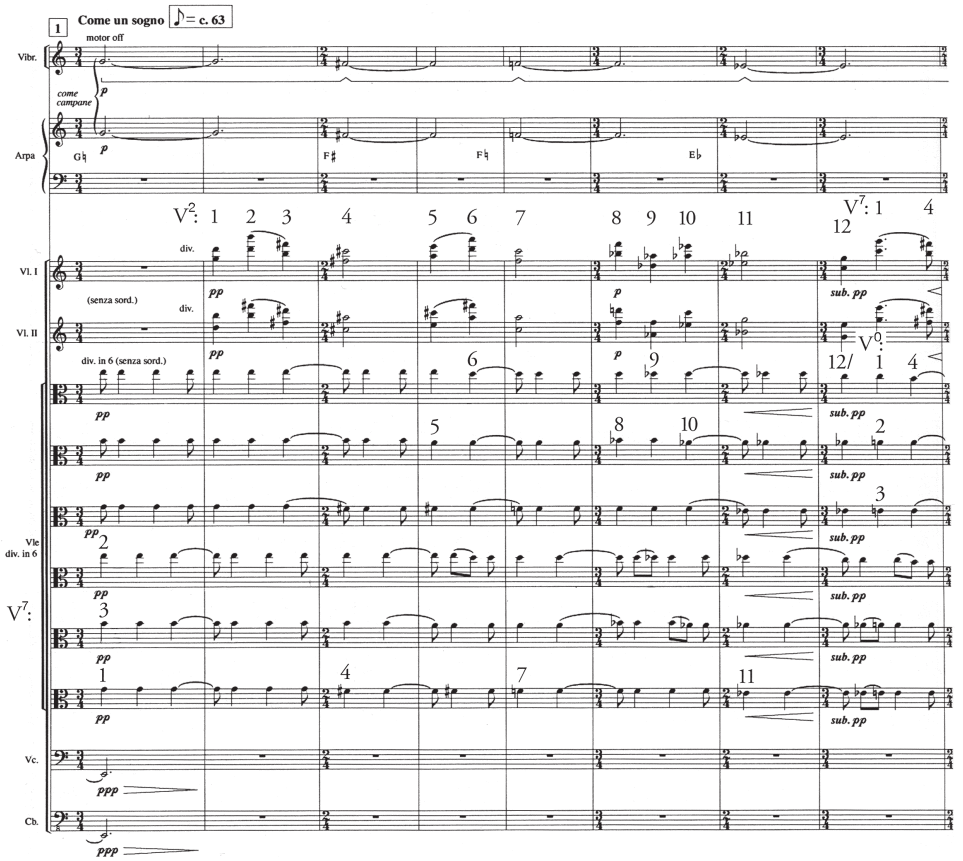
Example 8.18. Symphony No. 7, 2nd movement, 131 – 157, bass lines and theme.

the music proceeds to a catastrophe. In the coda (mm. 131–157), the Bloomington theme functions as it does in the coda of the first movement; it is a glimmering, divine message amidst the chaos of the scherzo textures. Example 8.18 shows the bass line and the appearances of the theme in the coda, omitting the harmonies and foreground events that occur in those measures where the Bloomington theme is absent. Note that the tritone relation between E and B♭ in the bass abates as the music proceeds, attacca, to the third movement.

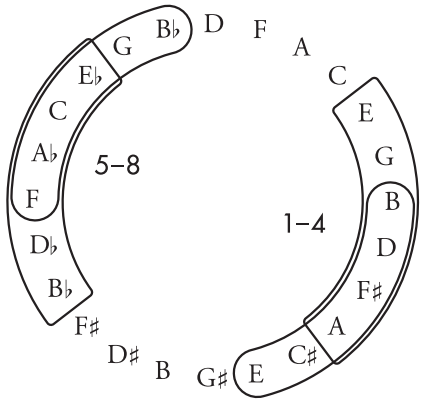
The third movement functions as a slow movement and is characterized by an almost clockwork-like unfolding of the fifth series. To be more precise, there are usually two parallel strands of the series unfolding concurrently and moreover the melody is harmonized by parallel triads in the violins (Example 8.19a). The harmonies are therefore rather thick; the pitch-class content of the two strands differ slightly, as is shown in Example 8.19b, where the segments with rectangular brackets indicate the viola harmony and the segments with rounded brackets indicate the top line of the violin melody.[9] The characteristic tritone relation within the series keeps being reiterated throughout the movement, as the parallel strands of the series are repeated systematically. They are only briefly interrupted by a bridge passage in the middle of the movement (mm. 51–64).

The finale proceeds towards the culmination and apotheosis of the Bloomington theme at the end. At first, the theme is heard in brass fanfares that function as an introduction to the movement, soon giving way to serial writing that seems to finish the fanfare motives (mm. 4–8; the series that contains the Bloomington motive is used briefly here for writing out melodies and harmonies, as opposed to the fast-paced and less distinctive scherzo textures of the second movement) and then to non-serial triad passages in the strings. This section (mm. 9–54) seems to pick up where the coda of the first movement left off, at times repeating the chordal passages heard there for the

9. The parallel triads in the violins thicken the harmonies even further; the lower divisi of the first violins mostly follows the harmonic space of the upper divisi and the violas while the upper divisi of the second violin plays notes on the southwestern quadrant of the Harmonic Circle (B-F♯-D♯-A♯-C♯) in measures 1–4 and notes in the northeastern quadrant (A-D-F-C-G-E) in measures 5–8.



Example 8.19a. Symphony No. 7, 3rd movement, mm. 1–8.



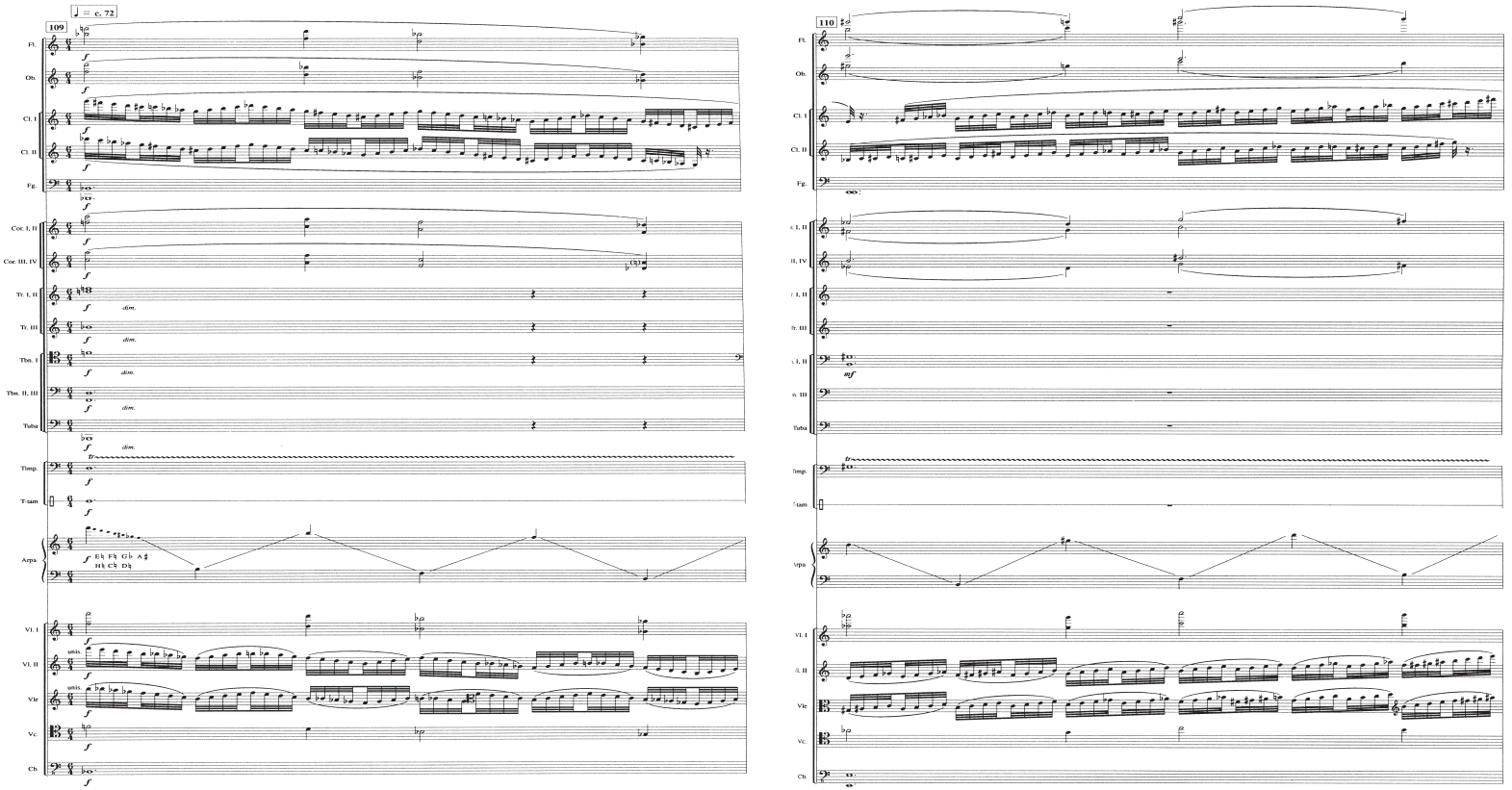
Example 8.19b. The harmonies of Example 8.19a on the Harmonic Circle. Segments with rectangular brackets indicate the viola harmony and the segments with rounded brackets indicate the top line of the violin melody.

first time. The triads often move quite parsimoniously on the Harmonic Circle; the C♯ minor, B major, D major, and D♯ minor chords of measures 9–14 are all found relatively close to each other in the southern half of the Circle. However, modal mixture causes more affective passages to emerge at times. The appearance of a G minor chord on the downbeat of measure 15 jumps to the opposite side of the Circle, but the subsequent D and B major chords return to the southern half. Later there are more instances of modal mixture, including B major and minor, F major and minor chords which appear close to each other, and other similar chords. All of this makes the music capricious and unpredictable.

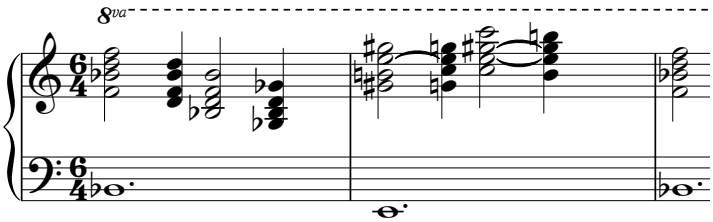
The passage leads up to a brass theme that originally appeared in Rautavaara's string orchestra composition *Canto IV*. The theme and its accompaniment are serially written with the series given in Example 8.14a. Its triads move around the Harmonic Circle as illustrated in Example 8.14c, retaining the capricious nature of the preceding triadic passages. For instance, the relationship between the first two triads, a F♯ major and an E minor, is not particularly parsimonious—they have no common tones and motion from the former to the latter requires one motion of a minor third, plus two semitone motions (C♯-E, F♯-G, A♯-B). The motion from C♯ to E, in particular, sounds like an augmented second and requires significantly more energy than semitonal or even whole-tone motion.

The brass theme reappears after a more subdued bridge section, it too originating from *Canto IV* but featuring the triadic series arpeggiated like the triadic series of the Symphony. This ties the music of *Canto IV* closely to the Symphony. The second appearance of the brass theme leads to the Bloomington theme. This time it does not transpose up anymore. Finally, at the end of a 40-minute symphony, the theme seems to attain equilibrium. Here it is harmonized according to the nature of its two halves with their inherent tritone relation; the first half of the theme is played to a B♭ root and the second to an E root (Example 8.20). Even the third chord of the theme, which in the first movement led the phrase into an upward-modulating motion, remains now connected to the initial B♭ major harmony. The Bloomington theme is harmonized by different inversions of a B♭ major chord in the first three chords of measure 109, while the augmented B♭ triad on the final beat of the measure leads to the following measure. In the following measure, the E root supports the E major chords on the first and last beats of the measure, embellished by neighboring motions that stem from the outline of the Bloomington theme. See Examples 8.21a–c for a reduction of these two measures and placement of their harmonies on the Harmonic Circle.[10] The dotted lines in Examples 8.21b–c indicate the augmented chords in each measure.

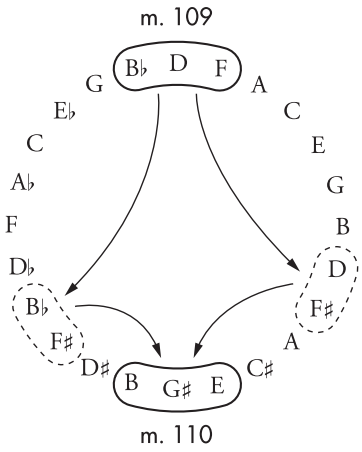
10. The misprinted G♮ of the first oboe in m. 110, visible in Example 8.20, is corrected in this reduction.



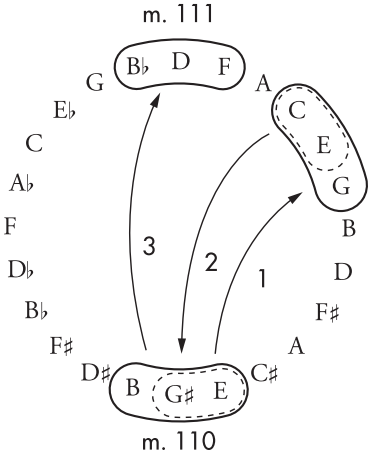
Example 8.20. Symphony No. 7, 4th movement, mm. 109–110.



Example 8.21a. Symphony No. 7, 4th movement, mm. 109–110, reduction.



Example 8.21b. The harmonies of m. 109 on the Harmonic Circle.



Example 8.21c. The harmonies of m. 110 on the Harmonic Circle.

It is between these two harmonies, B♭ and E major, that the theme oscillates; the tritone between them renders the music as expansive as the "Cosmic" music that marks the beginning and end of Rautavaara's *True & False Unicorn* (see Chapter 7.1). In the end, the music of the Symphony settles on a B♭ root, but some ambiguity remains until the very end. In the coda (mm. 117–121), the music vacillates between B♭ major and B minor, with B♭ major having more stable support. B♭ major and B minor are related through the neo-Riemannian SLIDE operation; when the operation is applied to a major triad, it entails a certain sense of volatility as the root and fifth of a triad suddenly drop by a semitone each, retaining only the third of the first triad. This is also why this passage has a sense of uncertainty. In the end, elements of B minor remain on top of the B♭ minor harmony, leaving the situation unresolved.

9
Conclusions

In 1980, Einojuhani Rautavaara lamented what he saw as a lack of progressive logic in his output and development. He referred to his sometimes abrupt changes of composing techniques as a series of revolutions:

> I have very forcefully rejected that which I have done up to that point, and taken on something completely opposite. This may have given the impression that that man really has no clear stylistic category and that it is impossible to divine what it is that he is after. Today he will do something completely different than he has done before… (Rautavaara, quoted in Aromäki 1980, 243.)[1]

In retrospect, is that view justified? Rautavaara did adopt new musical idioms many times in his career, but they were mostly precipitated by crises that halted his productivity in his previous styles. The first major change was his adoption of the twelve-tone technique in 1957, necessitated by his perceived inability to write long enough continuums in his previous style (Tiikkaja 2014, 163–170). His progression to integral serialism was a logical and almost immediate step from the basic twelve-tone techniques taught to him by Wladimir Vogel in the spring and summer of 1957 in Ascona; it was on the way back home to Finland later in that same summer that he began to compose the integral-serialist *Prævariata*, inspired by the atmosphere of Darmstadt. Integral serialism, in any case, can be considered merely an extension of basic twelve-tone techniques.

But it was that very technique that caused his next crisis as it proved to be a step away from the style—tonally inflected serialism—that he eventually felt most at home with. After his Symphony No. 3 was premiered to unflattering reception, this step was taken at the behest of those closest to him: his wife, friends and colleagues, and the Finnish contemporary music establishment in general. Rautavaara soon came to regard integral serialism a dead end, exacerbated by his marital troubles. This led to a crisis for several years—the only way out of which, for him, was a complete reversal of style and technique into neoromanticism in 1967.

1. "Olen hyvin voimakkaasti torjunut sen, mitä olen siihen asti tehnyt, ja tarttunut aivan vastakkaiseen asiaan. On voinut saada sellaisen vaikutelman, että tuolla miehellä ei ole oikeastaan mitään selkeää tyyliä eikä voi saada selvää mitä hän tahtoo. Tänään hän tekee jotain aivan erilaista kuin aikaisemmin…"

This was by far the greatest revolution in Rautavaara's music. After the turn of the 1970s, the revolutions got smaller as strains of different techniques appeared to varying degrees in individual compositions. In many cases, even consecutive compositions might be quite different in terms of technique and style. But from the 1970s onwards, a tendency towards consolidation of different devices and techniques can be gleaned. Rautavaara sought to incorporate serial writing into his new-found Romantic timbres and harmonies almost from the very beginning of his neoromantic period. Serial techniques were used for rhetorical purposes in such compositions as his 1970 opera *Apollon contra Marsyas* (where the music of a pedantic Professor of Music is written serially) and in the following year, in *True & False Unicorn* (where, likewise, the music of *Sigmund of Vienna* cycles through an eight-note series). Rautavaara's chamber opera *En dramatisk scen* (1975) is written serially, but the music did not ultimately please Rautavaara and he withdrew it. The use of musical letters from the names of Igor Stravinsky, Arnold Schoenberg, and other historical composers in *Monologues of the Unicorn* (1980) can be seen as a quasi-serial technique, even if the musical letters are used as *idées fixes* rather than flexible interval repositories of actual serial writing.

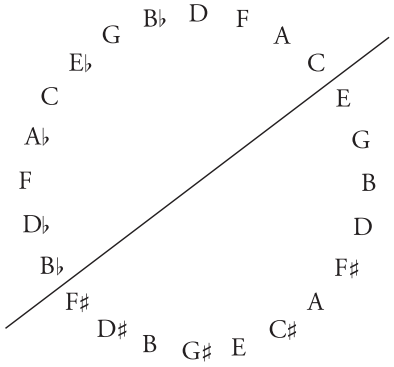
In any case, it is really with *Thomas* and Symphony No. 5, both composed in the mid-1980s, that Rautavaara finally began to succeed in fusing together his ideal tertian harmonies with proper serial writing. His final breakthrough came with the Symphony No. 7 in 1995, when he essentially returned to the harmonic and serial practices that had already borne great results 35 years earlier with such compositions as *Die Liebenden*, String Quartet No. 2, and Symphony No. 3. It is with Symphony No. 7 that Rautavaara can be said to have discovered his mature style; once this discovery was made he never really stepped away from it.

This study has traversed through most of Rautavaara's career, from his earliest compositions in the late 1940s to the maturation of his music in the mid-1990s. As discussed in Chapter 3, Rautavaara progressed from the added-tone triads of his earliest compositions to polyharmonies where he experimented with different degrees of harmonic tension that arises from varying the relationships between the constituent units—typically heard as triads—of polyharmonic chords. The first really mature stage of his career began in 1957 with his adoption of serial techniques, and in the space of a few years he managed to create some of his most artistically successful compositions. These include *Die Liebenden*, String Quartet No. 2, and Symphony No. 3, all of which fuse triadic or diatonic harmonies with serial procedures. As recounted in Chapter 4, Rautavaara learned almost immediately to craft his twelve-tone rows in a fashion that satisfied his penchant for symmetry on many levels. In terms of harmony,

already in this period he almost always crafted his twelve-tone rows in a manner that juxtaposes the two hexachords at a tritone-relation; moreover, he usually prefers to use those transpositions of the series that highlight the contrast of "white" and "black" harmonic areas. When he entered his total serial stage, as discussed in Chapter 5, harmony became a secondary parameter; it was more of a collateral result of detailed serial operations than a fundamental element of music that could be controlled by the composer in any meaningful manner. This stage proved to be a sidestep in Rautavaara's career, and the way out for him was to convert to a neoromantic style at the end of the 1960s—initially with a rhetorical, or postmodern, attitude while considering serialism still to be his true style. Within a short time, however, he reversed these roles; by *True & False Unicorn* (1971), if not earlier, the triad-laden, neoromantic style showed the most earnest facet of Rautavaara as a composer, while serialist techniques were relegated to the role of rhetorical utterances. This was discussed in Chapters 6 and 7. Finally, Chapter 8 showed Rautavaara learning to fuse together most of the techniques that he had accrued up to then during his career.

The aim of this study has been to show that despite Rautavaara's use of different composing techniques and modes of expression in the course of his long career of composing music, the core of his harmonic preferences remained relatively unchanged; these hinged on stark contrasts between fundamental harmonies. In a triad-based harmonic environment that does not rely on functional tonality, the starkest of contrasts occurs with harmonies that are at a tritone's distance, that distance being the farthest that two triads can be situated from one another—assuming that the harmonies are otherwise similar (e.g., both are major triads, or minor triads, or seventh chords, etc). It can also be noted that proximity can cause harmonic tension as well; the layering of two triads on roots a semitone apart (for instance, F and F♯ major chords) will create a very tense harmony. For the purpose of gauging the relative tension of Rautavaara's tertian harmonies, I have used the Harmonic Circle which situates elements that are a tritone apart—be they single notes, dyads, triads, or any other segments—on opposite sides of the Circle. Rautavaara's fondness of visual symmetry (his symmetrical writing on the keyboard, for instance, is generally centered on a D/A♭ axis) is probably the reason for his preference of using materials that divide into white ("natural") and black ("chromatic") counterparts—in numerous compositions his twelve-tone rows are neatly divided into white and black hexachords and he generally uses the transposition of the series which retains this visual division.

This division can be seen on the Harmonic Circle. If we place an imaginary axis of symmetry between C and E, and between F♯ and B♭, it can be seen to pass through the white and black areas of the Harmonic Circle (Example 9.1); the white area being



Example 9.1. An axis of symmetry passing through (implied) D and A♭ on the Harmonic Circle.

formed by the segment between the two D pitches and the black area by the segment between A♭ and G♯. Time and again we have seen in the preceding chapters that Rautavaara places significant harmonic events on precisely this axis—in *Die Liebenden*, String Quartet No. 2, Symphonies Nos. 3, 5, and 7, *True & False Unicorn*, and many other compositions. This demonstrates that his music has a fundamental harmonic core that remains largely unchanged even when his mode of expression changes; these compositions span many decades of Rautavaara's output, from the end of the 1950s to the mid-1990s. Yet in the middle of that time period, in 1980, he confessed to feeling despondent when comparing his own progress to those of his colleagues:

> When I have seen the clear arches and unity of their progression, I have fallen into despair when considering my own giant leaps. (Rautavaara, quoted in Aromäki 1980, 243.)[2]

On a more abstract level, the opposition of tritonal axes, such as the stark division into black and white which is so central to Rautavaara's music, can be seen as analogous to the Jungian conception of Mandalas as a symbol of a person's self. As discussed in Chapter 2.1, Rautavaara was well versed in Jungian thought and like Jung, was intrigued by Mandalas. As Rautavaara himself said, reflecting Jung, Mandalas are "antidotes against chaos," and he likened Mandalas particularly to twelve-tone writing—"which is a kind of circle where all things are connected with each other" (Rautavaara, in Cronvall 2005 [1998]; see Chapter 2.1.1). In the same context, he also referred to his endeavor to combine serialist techniques with [tonal] harmony. Therefore, it does not seem improbable that he likened the strong harmonic oppositions in his music, serial or otherwise, to the Jungian "paired opposites" that are contained within the self (Jung 1972, 73; see Chapter 2.1.1).

2. "Kun olen katsonut heiän kokonaisuutensa selkeätä kaarta, olen vaipunut epätoivoon ajatellessani omia hirveitä loikkiani."

Where did Rautavaara's fascination with strong contrasts and paired opposites originate? As is discussed in Chapter 3, his first compositions were influenced by the music of Claude Debussy; he even entered, and won, his first composition contest using the pseudonym "Claude." Furthermore, in 1967 came about the greatest revolution of his career with his adoption of neoromanticism. Significantly, the catalyst for this change was *Anadyomene*, a composition that deliberately refers to the soundworld of Debussy's music (see Chapter 6). Two years later, in 1969, Rautavaara made two radio programs on Debussy for the Finnish Broadcasting Corporation, Yle. It is worth quoting the first of them at length. First, he discusses the term "Impressionism" that has often been used to describe Debussy's style—a description that Rautavaara disagrees with. From this he segues into more recent events in music, the coinage of various 1960s composers as sound-mass composers:

> As an example of why this came to be, let us consider the piano prelude *Brouillards*. The left hand alternates two triads, a C major and an incomplete seventh, B-D-F[3]—all the white keys except for A—the fundamentals of the C major scale. And the right hand plays on top on the black keys. A sounding chromatic mass emerges. By scholastic analysis, which has indeed been conducted, the resulting chords can be described as so-called spectrums of partials. Changes based on the nuances of the formants begin to emerge, as well as organized motion of the fields that they create. The sound masses form noises of varying degrees. The perception of tonality vanishes and keys exist only as empty vessels. Therefore, the principles are the same as they are in electronic music. […]
>
> Another much more prosaic aspect surely comes to mind to every composer ever to have played around on a keyboard. Debussy's hands each seek their own framework, as distinct as possible—that is, white and black—and play them together, trying out the results. Just as is the case with Stravinsky, who always composes at the piano; what emerged was the Petrushka chord, superimposed C and F♯ major chords (Rautavaara 1969b).[4]

3. Sic; Rautavaara, speaking in Finnish, uses the word "vajaaseptimisointu," denoting a seventh chord with one or more notes missing. However, as the chord in question lacks a seventh altogether, he should be talking about a diminished triad.

4. "Esimerkkinä syistä tähän olkoon pianopreludi *Brouillards*, sumua. Vasen käsi soittaa siinä vuorotellen kaksi kolmisointua, C-duurisoinnun ja vajaaseptimisoinnun h-d-f, siis valkoiset koskettimet paitsi a:ta; siis C-duurin tukipylväät. Ja oikea käsi, se soittaa päälle asettuvilla mustilla koskettimilla. Nämä mustat koskettimet täyttävät kolmisointujen sävelvälit. Syntyy soiva kromaattinen massa. Skolastisesti analysoimalla, kuten on tehtykin, voidaan syntyvät soinnut selittää niin sanotuiksi osasävelspektreiksi. Syntyy formanttien vivahteisiin rakentuvia vaihteluja ja niiden muodostamien kenttien organisoitua liikettä. Sävelmassat muodostavat eriasteisia hälyjä. Sävellajisuus katoaa siihen ja on vain näennäistä laatua. Periaatteet ovat siis aivan samat kuin elektronisessa musiikissa. […] Toinen, paljon proosallisempi aspekti tulee varmasti mieleen jokaisella klaviatuurilla leikkineelle säveltäjälle: Debussyn kädet etsivät kumpikin oman, mahdollisimman erilaisen hahmokenttänsä, siis valkoisen ja mustan, pelaavat niitä yhteen, kokeillen syntyviä tuloksia, aivan kuten Stravinskyllä, joka aina säveltää pianon ääressä, syntyi niin sanottu *Petrushka*-sointu, päällekkäiset C-duuri- ja fis-duurisoinnut."

This statement by Rautavaara seems to verify the answers to the questions that I set out to investigate in Chapter 1. Rautavaara's core harmonic procedures throughout his career relied on strong harmonic contrasts. In his early compositions, up until the mid-1950s, his harmonic preferences were still developing, as discussed in Chapter 3. From the Debussyesque added-tone harmonies of his earliest piano pieces and songs he advanced towards polytonality, following the model of Prokofiev and Britten, in *Three Sonnets of Shakespeare* (1951). Such compositions as *Fünf Sonette an Orpheus* (1954–55) develop polytonal ideas further—but they are still rooted mostly on triads being superimposed; the harmonic tension arises from the degree of dissonance between the superimposed triads. However, from the start of Rautavaara's first serial period in 1957, discussed in Chapter 4, a wider and more coherent view of harmonic areas is evident in his music. Still, there are certainly also such compositions within his œuvre where the interplay between harmonic areas is of lesser importance. In integral serialism, the importance of harmony is reduced because so many other parameters are elevated to equal importance; at the same time, the complexity of the music increases. Therefore, the Harmonic Circle, which is based on alternating interval classes 3 and 4, does not really work as an analytic tool for integral-serial compositions—not even *Prævariata* (1957), even though its series contains four pairs of interval class 4 (see Chapter 4.4).

There were two major artistic choices in Rautavaara's career that proved immensely consequential for his output in general. The first was his adoption of serialism in 1957. Already then he succeeded in joining together softly consonant, triadic harmonies and serial techniques. Notably, it was largely to this idiom that he returned in his mature period from the 1990s onwards.

From the start, Rautavaara adopted features of serial techniques from all three original composers of the second Viennese school. From Arnold Schoenberg he took the basic serial techniques and the use of combinatorial rows, even if Rautavaara's aims in using the twelve-tone technique were markedly different—he sought to emphasize connections to tonality, whereas Schoenberg's stated aims were the opposite.[5] Allusions to tonality were prevalent in the twelve-tone music of Alban Berg, whose output Rautavaara obviously studied closely. Like Berg, Rautavaara was prone to using palindromic series and rows that contain triads; it is even possible that he got the idea of using series where white and black hexachords are clearly separated from studying the rows that Berg used in his *Lyric Suite* (Chapter 2.2.3). Like Berg, Anton Webern also used palindromic, symmetric rows, and from Webern Rautavaara likely got the idea of writing rows derived of a single trichord via basic permutations.

5. From Schoenberg, via Vogel, Rautavaara also learned the use of *Sprechgesang*.

The second major artistic choice for Rautavaara was his discarding of integral serialism and turning his focus to neoromanticism instead. As is discussed in Chapter 6, his adoption of a neoromanticism was gradual, and not as clear a revolution as Rautavaara's statements about giant leaps and reversals of style, quoted above, would have us believe. What is true, considering Rautavaara's statement, is that the adoption of neoromanticism was a case of forceful rejection (of integral serialism). But it was not immediately clear to him what he would take up in its stead. For a while he was able to function artistically on the basis of his earlier, unpublished non-serial compositions (as was the case with the *Independence Cantata* or *Two Preludes of T. S. Eliot*, for example), but in the first new compositions after integral serialism he experimented briefly with, or at least alluded to, functional tonality in *Two Psalms*. Next, he took up allusions to other composers and styles, namely Debussy (*Anadyomene*) and J. S. Bach (Sonata for Solo Cello). It seems that the allusions to functional tonality in the cello sonata and *Two Psalms* were ultimately not to his liking, because after these works tonal cadences became rare occurrences in his œuvre.

The lush timbres, symmetries, and synthetic scales of *Anadyomene* all seemed to point the way forward for Rautavaara—even though none of these features were new in his output. They seemed to continue the line that had been severed after Symphony No. 3, minus the serial composing technique of the Symphony. It was serialism that Rautavaara still considered his true style when he was composing *Anadyomene* (see Chapter 6.2), a composition he initially he considered to be a sidestep in his output. Quite soon, nevertheless, he revised his opinion and continued in the vein of *Anadyomene*, which did not take long to become his main stylistic, or at least timbral, reference point. Even though the *Independence Cantata* has sometimes been identified as the starting point of Rautavaara's neoromantic style (see Heiniö 1982, 82), I would view *Anadyomene* as the main catalyst for change. Instead of tonal functions, Rautavaara now began to regulate his harmonies with various other means, such as symmetrical motions that are often combined with synthetic modes or motions between the evenly spaced harmonies formed by synthetic modes (such as the octatonic scale in Cello Concerto No. 1).

Symmetrical structures are by nature neutral, since they do not have as singular characteristics as the different functions in a tonal system. In symmetrical structures everything is replicated and therefore nothing is unique—at least not in the sense that the functions of a tonic or a dominant are unique are in tonal harmony. This is why there are no stable tonal centers in such compositions as Cello Concerto No. 1; the four structural triads of that composition are at uniform distances from each other and therefore they have equal amounts of tension in relation to one another. In func-

tional tonality, most chords have a clear sense of direction towards resolution—only a few exceptions, such as diminished seventh chords, can resolve to several equally satisfying directions. This they do by virtue of their symmetricity, which does not suggest any direction that would be preferable to any other.

Rautavaara seeks to employ stark polarities in his non-functional triadic harmonies, such as the contrast between black and white harmonic areas, to create a sense of harmonic tension in his music. In a sense, this replaces the functional dynamics of tonal harmony while retaining its main unit of consonance, the triad.

This study ends with Rautavaara's Seventh Symphony, with the understanding that it represents the culmination of decades of development in his harmonic thought and the fusing together of different modes of expression. After the Symphony No. 7, Rautavaara composed music for another 20 years, but the position taken in this study is that the compositions created in those 20 years are essentially within the synthetic style that he first achieved with Symphony No. 7. These compositions could certainly warrant closer study in future research—as would works of his earlier periods not discussed in this study. Analyzing such 1990s compositions as *Aleksis Kivi*, String Quintet No. 1, or Symphony No. 8 with the Harmonic Circle would very likely produce relevant results, as would, no doubt, *Rasputin*, *Book of Visions*, Cello Concerto No. 2, and other compositions from the first two decades of the 21st century.

The Harmonic Circle might well shed new insights into the music of other composers as well. It might be interesting to investigate such composers as Arvo Pärt or Henryk Górecki, whose music is often tinged with similar metaphysical themes as Rautavaara's. This seems to lead to paring down of melodic and harmonic writing even more than happens in Rautavaara's music, which is generally imbued with more dramatic tension than is the case with either of those composers. Another intriguing composer in this context might be Krzysztof Penderecki, who, after his Modernist period in the 1960s turned to a more consonant neoromantic style, in a stylistic path similar to that of Rautavaara. All of these composers are Eastern European; looking to another side of the globe, it might be intriguing to look to the West, into the music of composers who are connected to the Minimalist tradition, however far they might have progressed from its original guises since the 1960s and 1970s.

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